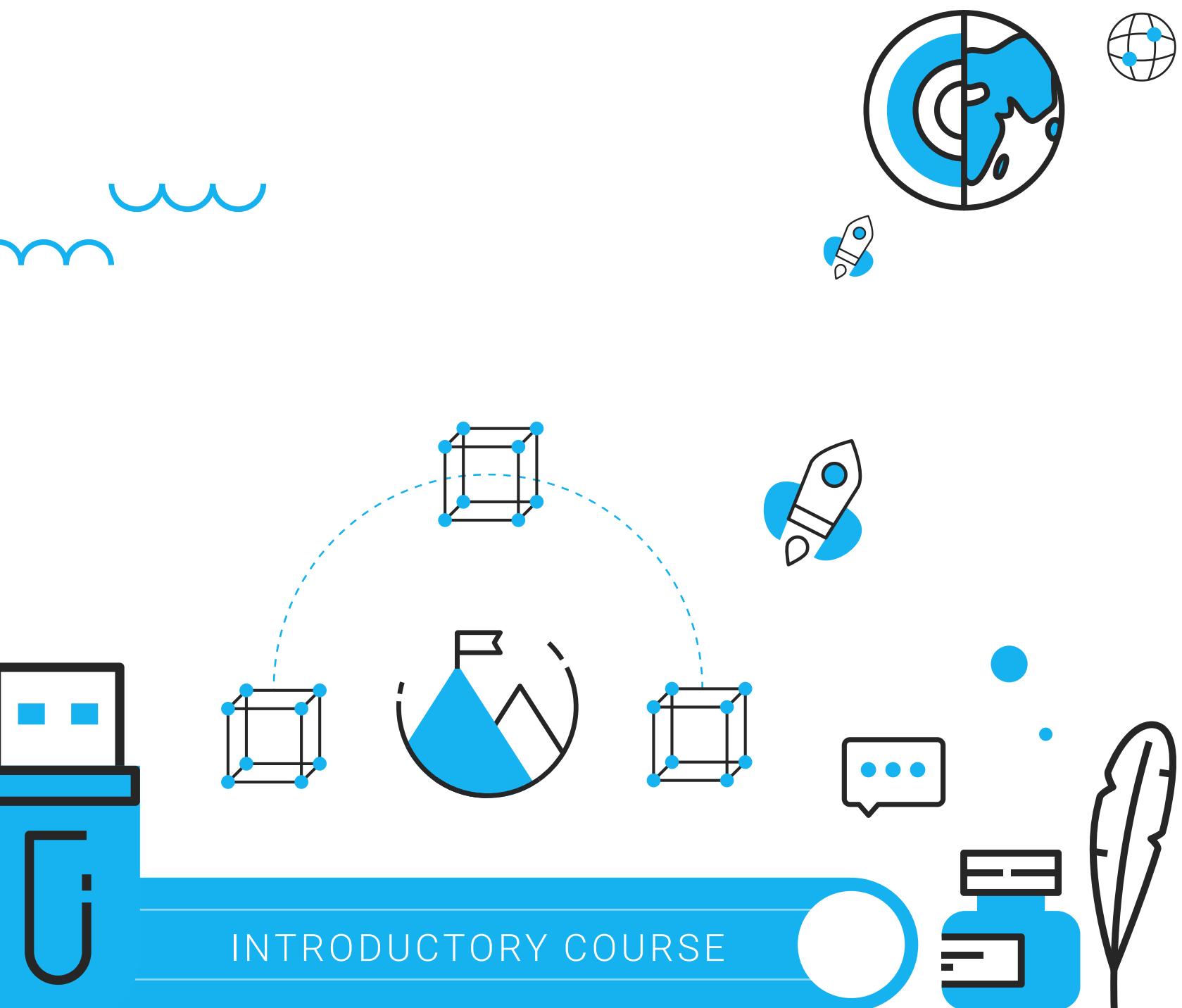
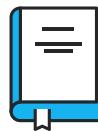


# UI/UX DESIGN

PROFESSIONAL PROGRAM



INTRODUCTORY COURSE



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## About This Course

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This course introduces you to the design field to help ensure this is the right path for you. You will learn the foundations of visual, UI, and UX design, including a brief history, an overview of varying roles and responsibilities within the industry, and what it takes to be a successful designer. You will be introduced to industry-leading design software through demos and hands-on practice with instructor feedback. You are expected to create digital media in this course and will have a working knowledge of Adobe Photoshop upon completion of the introductory course. You will also understand the basics of ethics in design and be able to list design trends and best practices.



## Learning Goals

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By the end of this course, you will know if you have the passion, drive, and aptitude to matriculate into the extended course.



## Learning Objectives

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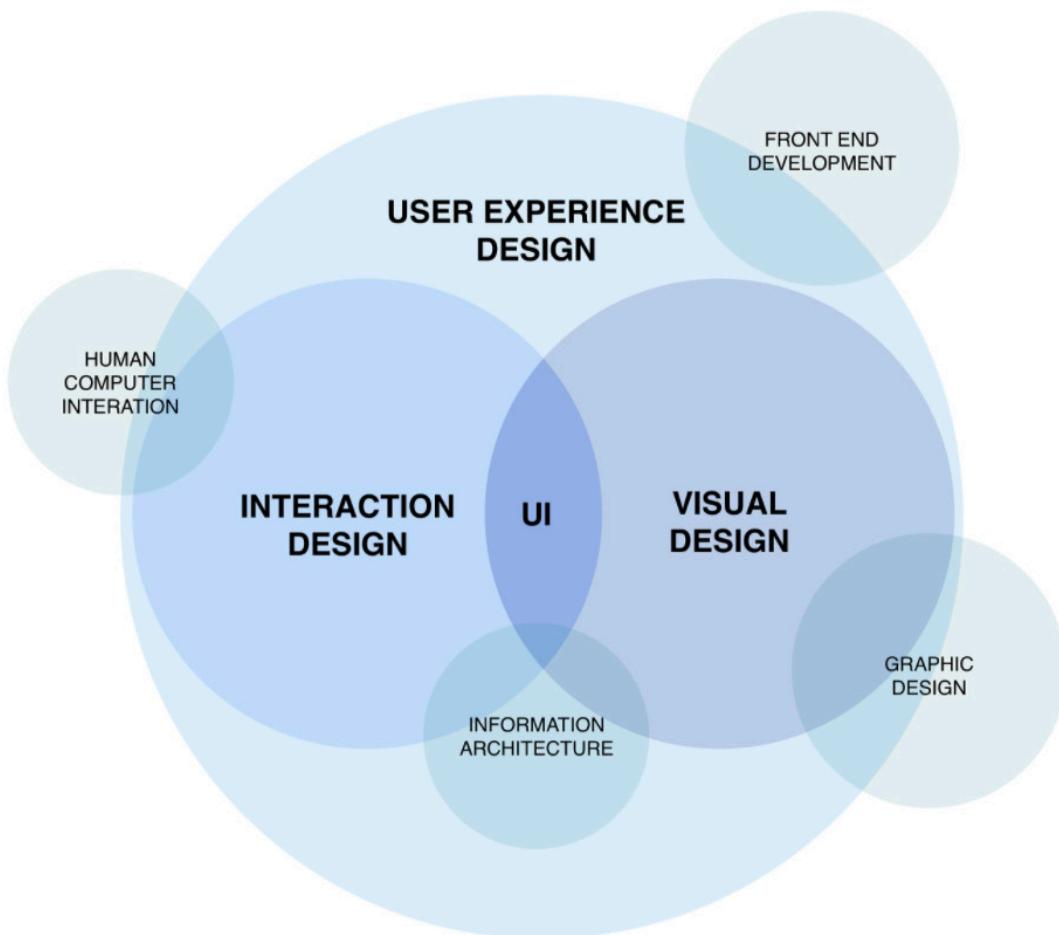
- | Understand the design industry ecosystem.
- | Understand what makes a design successful or not.
- | Demonstrate a working knowledge of Adobe Photoshop.
- | Discuss how this program will help you achieve your goals.

# Chapter 1: Introduction to Design

Design influences every aspect of our lives, including the making of vehicles and machinery to the design of systems and structures in our government, to the way a city is planned. It is a broad field that can be applied in different ways depending on the field and industry. As the industry continues to grow, newer positions have emerged, such as user experience designer, user interface designer, and product designer. As technology continues to improve,

newer fields emerge, such as artificial intelligence (AI), virtual reality (VR), and augmented reality (AR) technologies.

Design is about problem-solving to create objects, systems, structures, vehicles, and much more. Designers utilize various processes and methodologies that focus specifically on users and their needs, motivations, and business goals. Design is about solving problems by creating practical, inclusive, and accessible solutions or outcomes.



*Chart of intersections of design types*

# Different Types of Design

## Graphic Design

Graphic design, a traditional approach to design, aims to improve the visual look, feel, messaging, and information, and solve problems by utilizing visual composition, typography, and color theory. Graphic designers ensure that visual communications are accessible and easy to read. Often, graphic designers have a foundational knowledge of print and package design.

Print design focuses on creating layouts and organizing content for physical books, newspapers, annual reports, newsletters, and catalogs. Package design focuses on the way a product package looks and feels when users interact with the product. Package designers create proofs of concept and mockups, and format the file for product launch; they usually have a foundational understanding of industrial design and the printing process.

Often, graphic designers work with organizations, clients, and companies to design a brand identity, which usually includes creating assets like logos, color palettes, typography, and much more. Graphic designers can work with marketing and/or advertising departments to create marketing collateral, such as flyers, posters, business cards, T-shirts, signage, infographics, social media banners, and much more.

## Motion Design

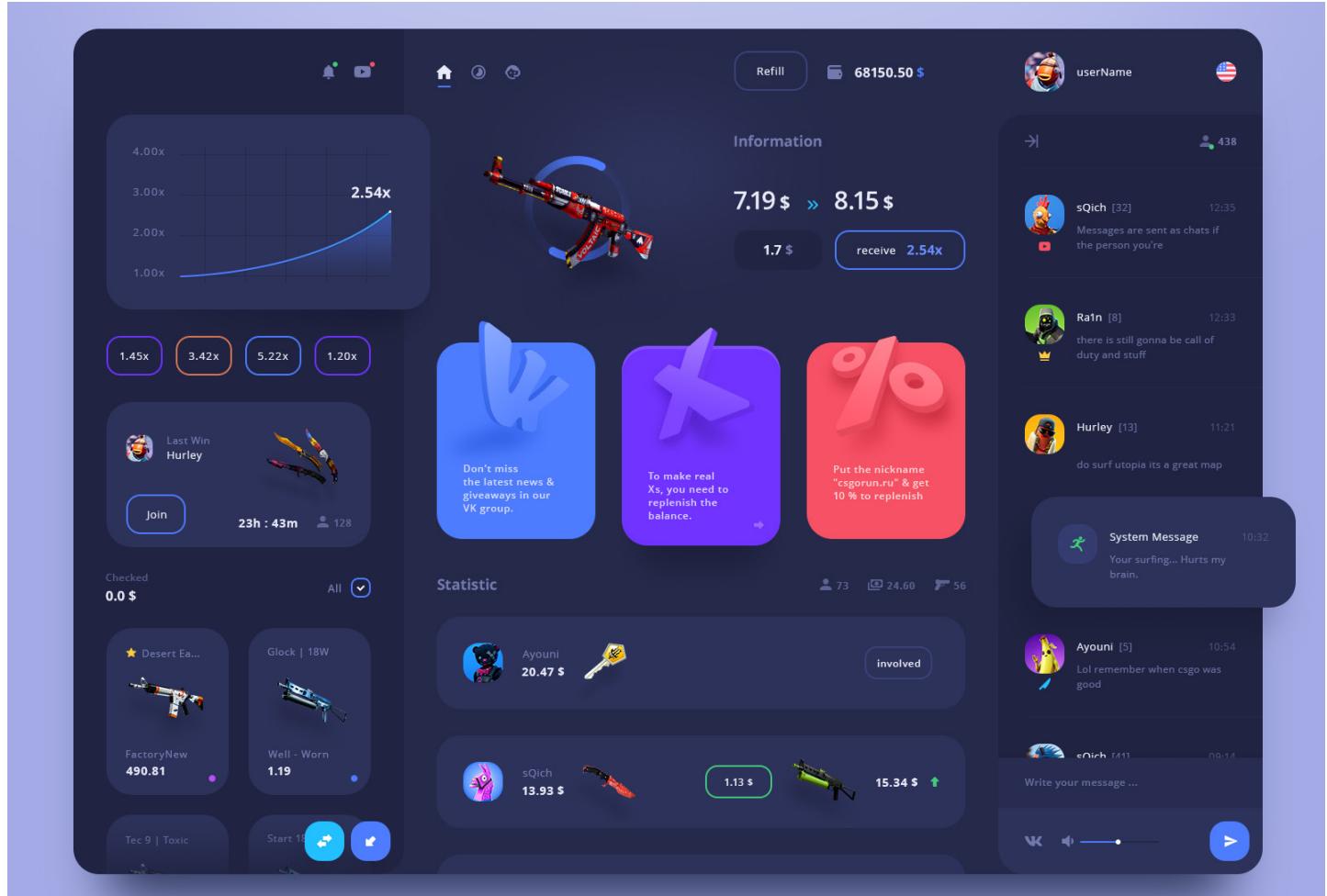
Motion design applies graphic design to filmmaking and video production. Motion designers understand the nuances of elements like time, sound, and space. Often, but not always, motion designers have a background in animation. They translate static and two-dimensional motion graphics and animations and have a foundational understanding of graphic design.

## User Experience Design

User experience (UX) design is a process that designers and teams use to create products, services, and software that provide impactful, purposeful, and accessible experiences to users and customers. UX designers ideate, research, test, and design the product; they focus on all aspects of the experience even before the user touches the product. This includes branding, design, usability, and function. Companies expect proficiency and mastery, even for entry-level UX designers, in at least one standard design prototyping tool (such as Sketch, AdobeXD, or Figma). Once you have learned one tool, the learning curve for the other tools lessens.

## Product Design

While UX designers focus primarily on users and their experiences, product designers focus on the entire process of building a new product. They aim to identify and validate pain points, work with other teams to synthesize existing data, and conduct tests to gather new information. Additionally, product designers collaborate with engineering departments to launch products and marketing departments to compose the perfect pitch and value propositions. Product designers concern themselves with the user experience *and* with business goals.<sup>1</sup> UX designers can sometimes be interchangeable with product designers, and some product designers have an industrial design background.



*Apple Watch and the user interface dashboard of a fictional product From: [Dribbble](#), [Airbnb](#)* (Accessed October 23, 2020)

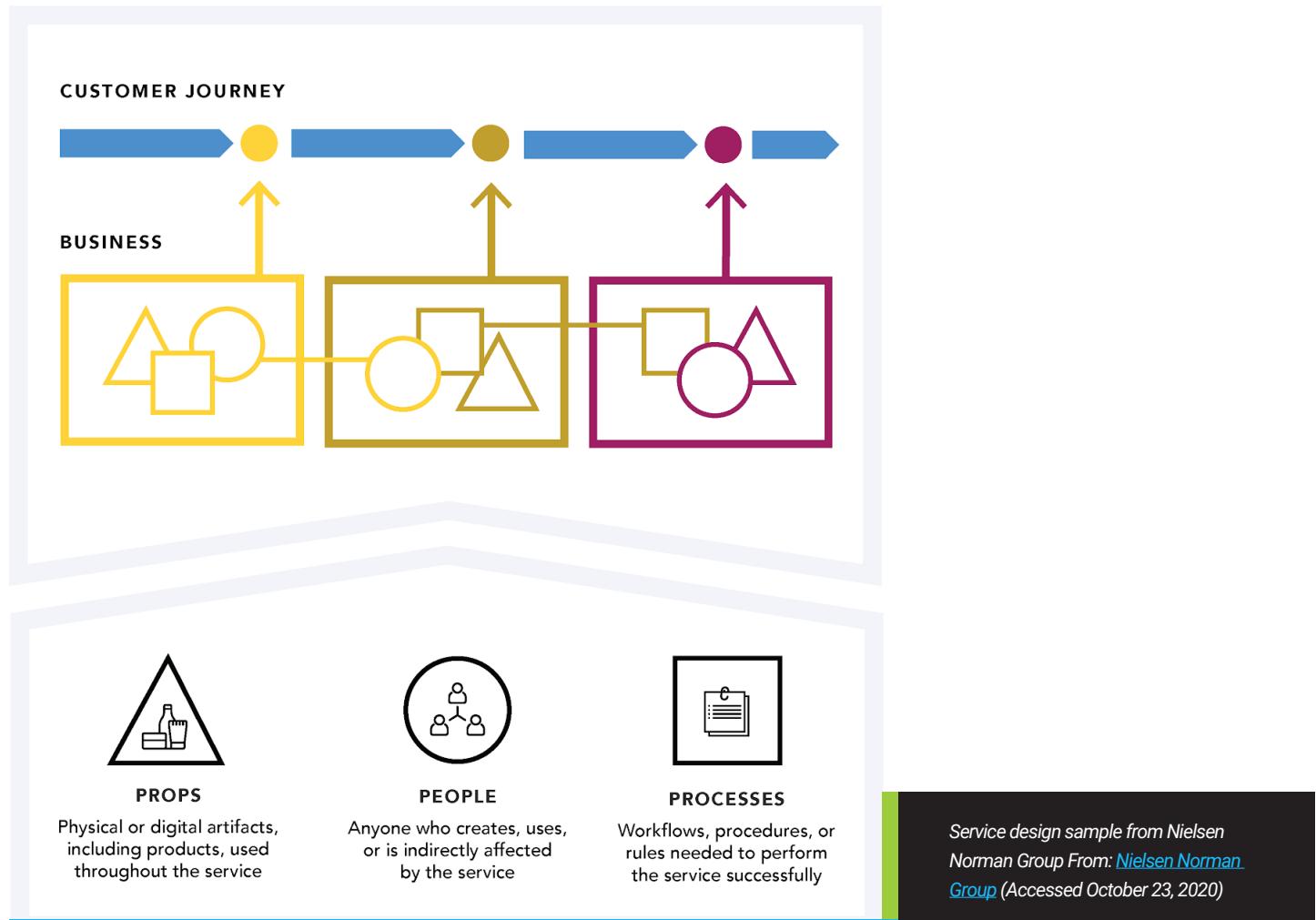
## User Interface Design

User interface (UI) design focuses on the overall visual experience of a product, service, or software. UI design centers on how color theory, visual design, and UI design patterns fundamentally influence how users interact with

the interface. A successful interface requires no thought from users and is intuitive and easy to use. Overall, UI designers are expected to have a solid foundation of visual and UX design principles. As a UI designer, even at entry-level positions, companies expect proficiency and mastery in at least one standard design prototyping tool (such as Sketch, AdobeXD, or Figma) and design software (Adobe Creative Suite)

## Interaction Design

Interaction design focuses on the interactions and interfaces between users and products. More specifically, the goal of interaction design is to create products for which users can achieve actionable items in the most accessible and streamlined way possible. Interaction designers are concerned with the interface, motion, sound, space (interactivity), and much more.<sup>2</sup>



## Service Design

In 1982, G. Lynn Shostack coined the term service design. Service design is an approach to design that focuses on the internal and operational processes of companies. It is the act of planning and organizing a company's resources to improve the experience of employees and, ultimately, customers.<sup>3</sup>

Service design is a part of user experience design. Service designers build trust and credibility within a company by establishing a complete understanding of people's needs and preferences within the system.

For example, imagine a bakery with a variety of employees (bakers, attendants, managers, etc.). Service design focuses on how the

bakery operates and delivers the baked goods that it promises to its customers. This type of design figures out where to source and receive ingredients, how to properly onboard new employees, and how the front and the back of the house communicate to each other. The bakery will need the physical storefront to be able to operate as a business. The bakery will also need digital props, such as a website, blog, and social media. The process includes the workflows, procedures, and rituals performed by employees, customers, or users throughout the service. The manager may have a set procedure for onboarding new employees. The back and front of the house may also have a workflow for how to deliver freshly baked goods to the front of the house without disrupting customer service.

# Design History

While user experience and user interface design are fairly new fields in the industry, visual and print design solidified theoretical and practical foundations for the field of UX design. As technology continues to innovate and grow,

companies seek people with a well-rounded understanding of current design trends and how history has informed present-day design theory. Here is a brief history of print and UI/UX design.

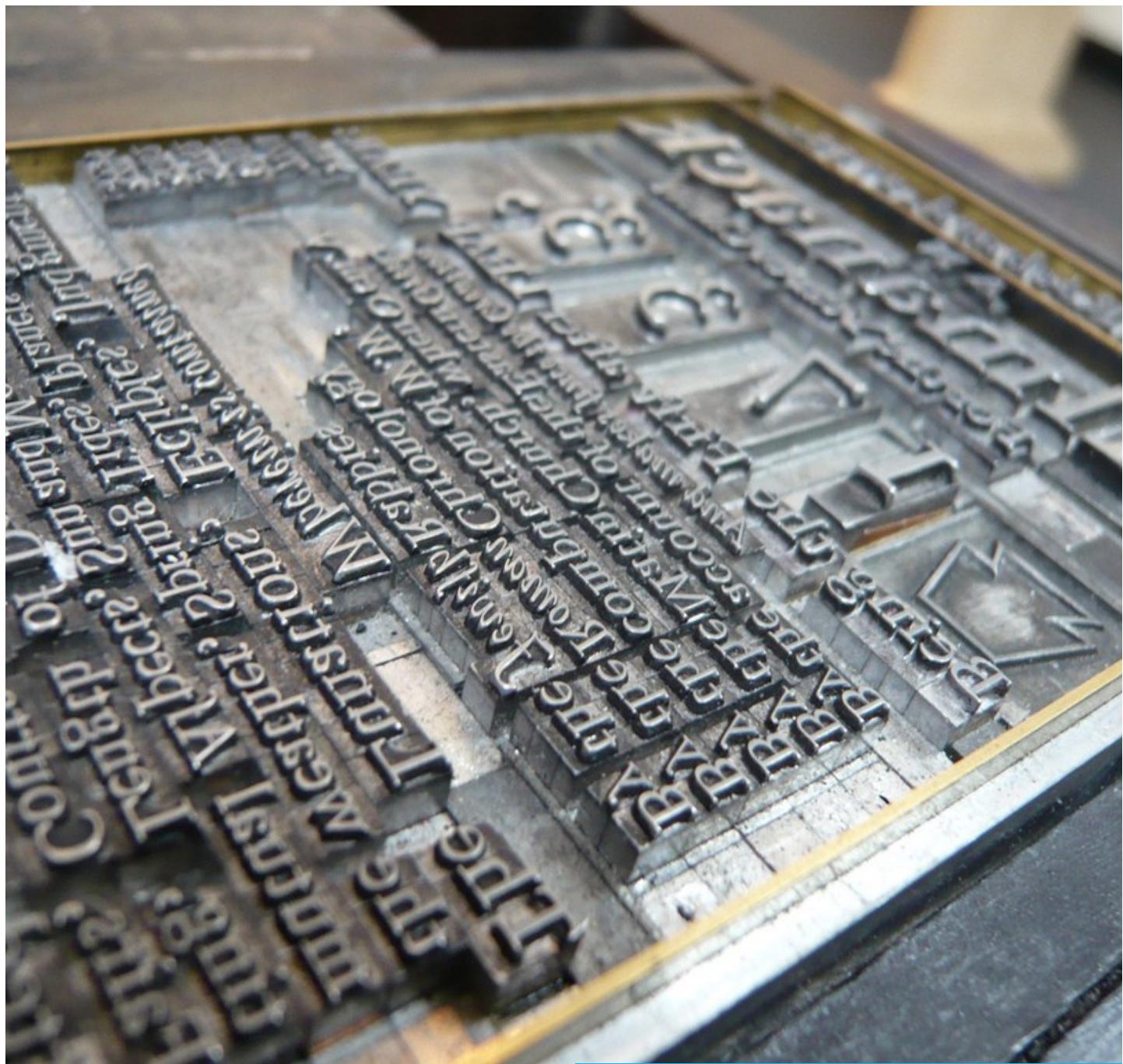


## The Evolution of Print Design

### 100 CE: The Power of Paper

Cai Lun, the director of Imperial Workshops at Luoyang in China, developed paper using organic fibers. The fibers allowed for

paper to be cheaper and more convenient to produce. As time passed, the quality of paper improved. By early 12 CE, Asia used the first paper currency.<sup>4</sup>



## 1000 CE–16th Century: Moveable Type and Bookmaking

Before the invention of moveable type, bookmakers wrote books by hand. To mass-produce books, people copied by hand. People also gravitated toward another technique—engraving individual letters into a block of wood designated for one page. Since one block represented one page of the book, people would need to start all over again on another block of wood if they made a mistake.

Moveable type block from China  
From: [Flickr](#) (Accessed October 23, 2020)

When Chinese artisan and alchemist Bi Sheng invented moveable type in 1041 CE, it allowed people to engrave individual characters onto smaller clay blocks. Because each character had an individual block, bookmakers could easily rearrange blocks to create words and pages. Ultimately, moveable-type made bookmaking much more efficient and cheaper.



In 1450, Johannes Gutenberg, a German printer and publisher, invented the printing press. The only difference between Gutenberg's and Sheng's invention was the actual characters (Chinese characters versus the German alphabet). Gutenberg's printing press caught on quickly in Europe because European alphabets limited the number of blocks needed. Additionally, Gutenberg printed The Gutenberg Bible, the first printed version of the Bible.<sup>5</sup>

Although moveable-type was harder for Asia to adopt due to the number of characters in Asian languages, this new invention made books more

*An illustration from the Book of Hours  
From: [World Digital Library](#) (Accessed October 23, 2020)*

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affordable, thus revolutionizing the circulation of knowledge, literacy, and education throughout the world.

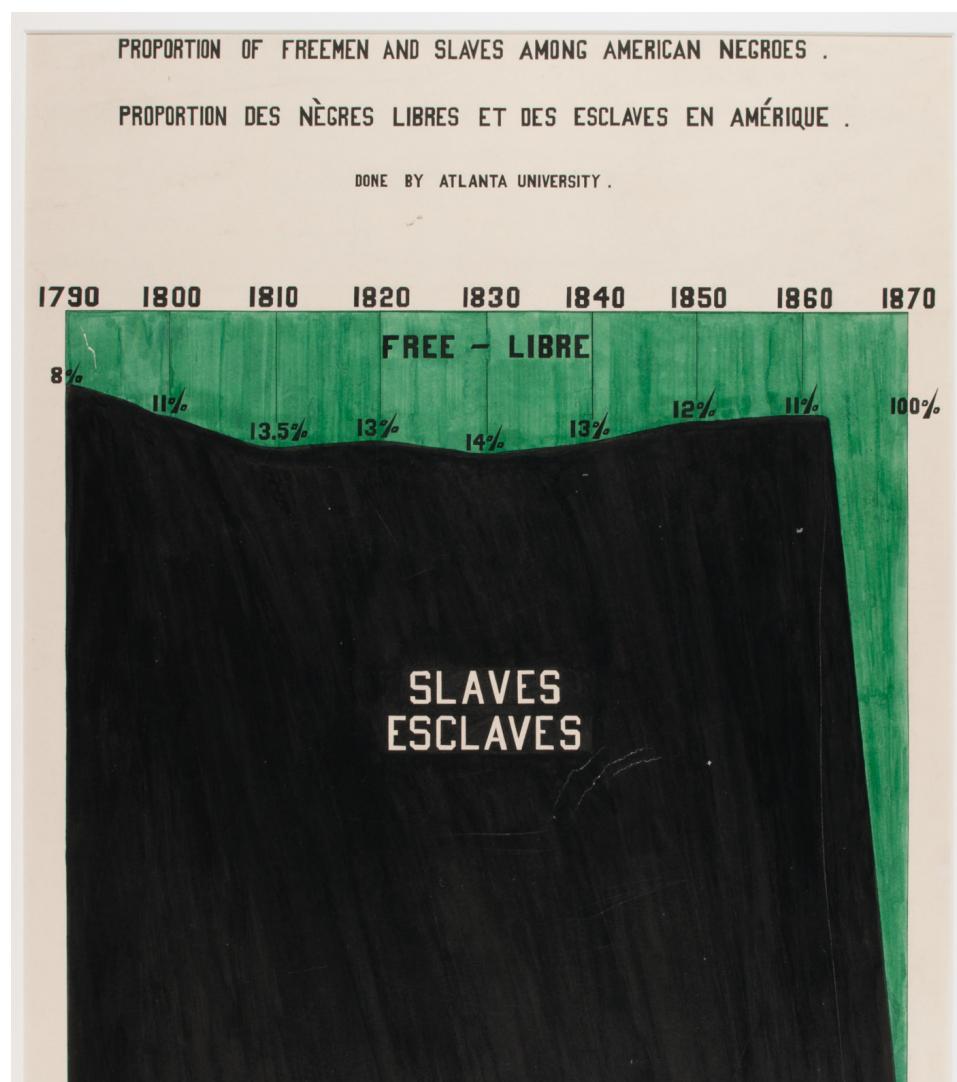
By the 16th century, more books were in circulation, and these books included decorative illustrations. Geoffroy Tory, French printer and publisher, published *Book of Hours*, a small book with paintings highlighted in gold and vibrant colors depicting the lives of Jesus Christ, the Virgin Mary, and the saints.<sup>6</sup>

## 16th–18th Century: The Mechanization of Typography and Printing

By the 16th century, Pierre-Simon Fournier, a French engraver and typefounder, invented the first font family. Reflective of the Rococo style, it was known for its use of natural curves and elegance. The first type family standardized type, size, and weights.

By the late 18th century, the English printer and typefounder John Baskerville began steering away from the Rococo style. He founded Bodoni and Didot, which reflect the neoclassical style, known for its boldness and elegance.

Graphic design and visual communications flourished during the Industrial Revolution due to easy access to printing and print materials. From 1760 to 1840, the cost of print and paper lowered, which allowed these commodities to reach a wider base of consumers. The revolution dramatically changed the nature of visual communications; society demanded larger-scale visuals and bolder typography to compete with the abundance of circulated printed materials.<sup>7</sup>



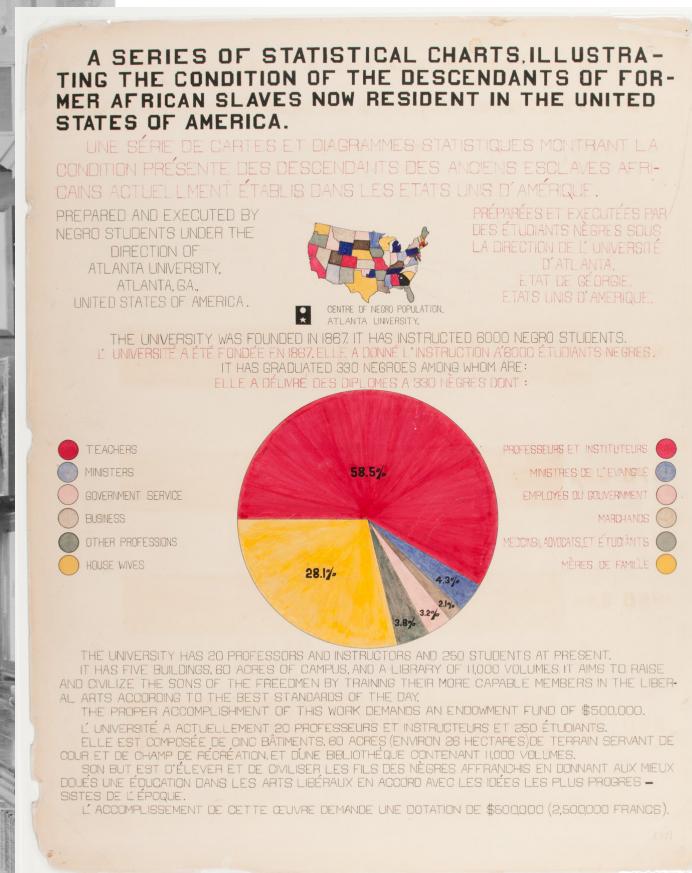
## 20th Century Design and Printing

Uplifting Black experiences and personhood, Black American civil rights activist and sociologist W. E. B. DuBois and Black American educator and community leader Booker T. Washington collaborated in 1900 to launch The Exhibit of American Negroes at the Exposition Universelle in Paris. DuBois and Washington aimed to hold conversations with the world's upper class and elite about the importance of acknowledging the experiences and cultural power of Black

Data visualizations from W. E. B. Du Bois' 1900 exhibit on Black American culture

From: [Medium](#) (Accessed October 23, 2020)

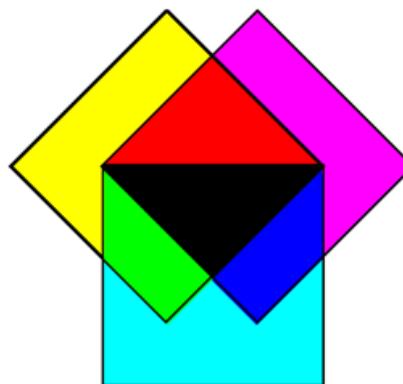
people, specifically in American culture. The graphics used data to tell the stories of people and their complexities, struggles, and resilience. Despite the lack of media coverage and racism in the United States, the exhibit won multiple prizes, awards, and honorable mentions.<sup>8</sup>



Data visualizations from W. E. B. Du Bois' 1900 exhibit on Black American culture From: [Medium](#) (Accessed October 23, 2020)

## Subtractive color mixing with cyan, magenta, and yellow filters

Cyan, magenta, yellow, and black (CMYK) standardized the printing industry. In 1906, the Eagle Printing Ink Company integrated the four-color wet process inks known as CMYK. The combination of the colors allowed for an unlimited variety of darker and richer tones on prints. CMYK is considered a subtractive model, a realistic look at how pigments mix to form new tones and colors. Subtractive colors are created by illuminating the colors from behind with white light.

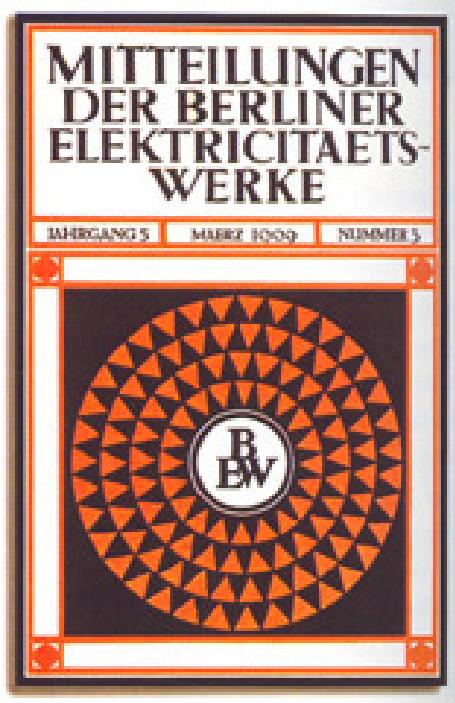
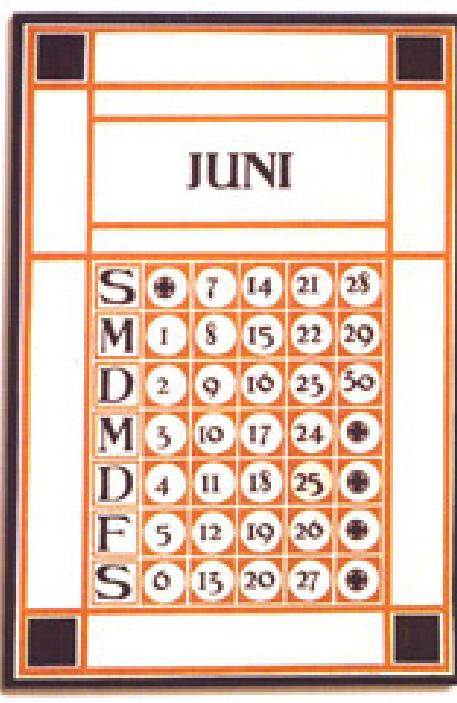
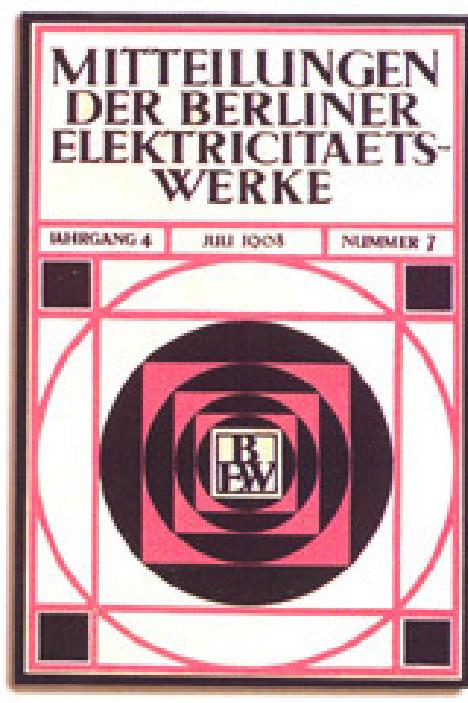
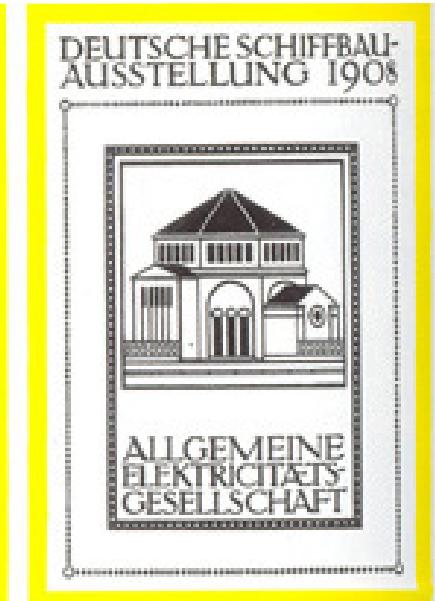
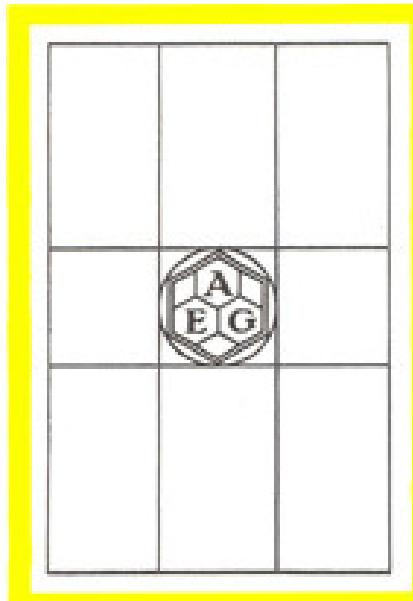


How colors mix together  
From: [HyperPhysics](#) (Accessed October 23, 2020)



In 1956, Pantone consulted with a chemist to create a more efficient printing process. Pantone created the Pantone Color Matching System that utilizes smaller amounts of ink to produce a wide range of colors<sup>9</sup>

*The Pantone Color Match Card  
From: [Pantone](#) (Accessed October 23, 2020)*



Peter Behrens, a German painter, illustrator, and later, an architect, consulted with AEG (General Electric Company), where Behrens designed the first recognizable visual identity system for companies.<sup>10</sup>

From: [Design History Research](#) (Accessed February 4, 2021)

"Due to easy access to inexpensive printing and materials, print was used as propaganda art during World War I" Propaganda came in many forms like postcards, flyers, pamphlets, and posters. On both sides of the conflict, governments invested in printed collateral that alluded to nationalism, support of the

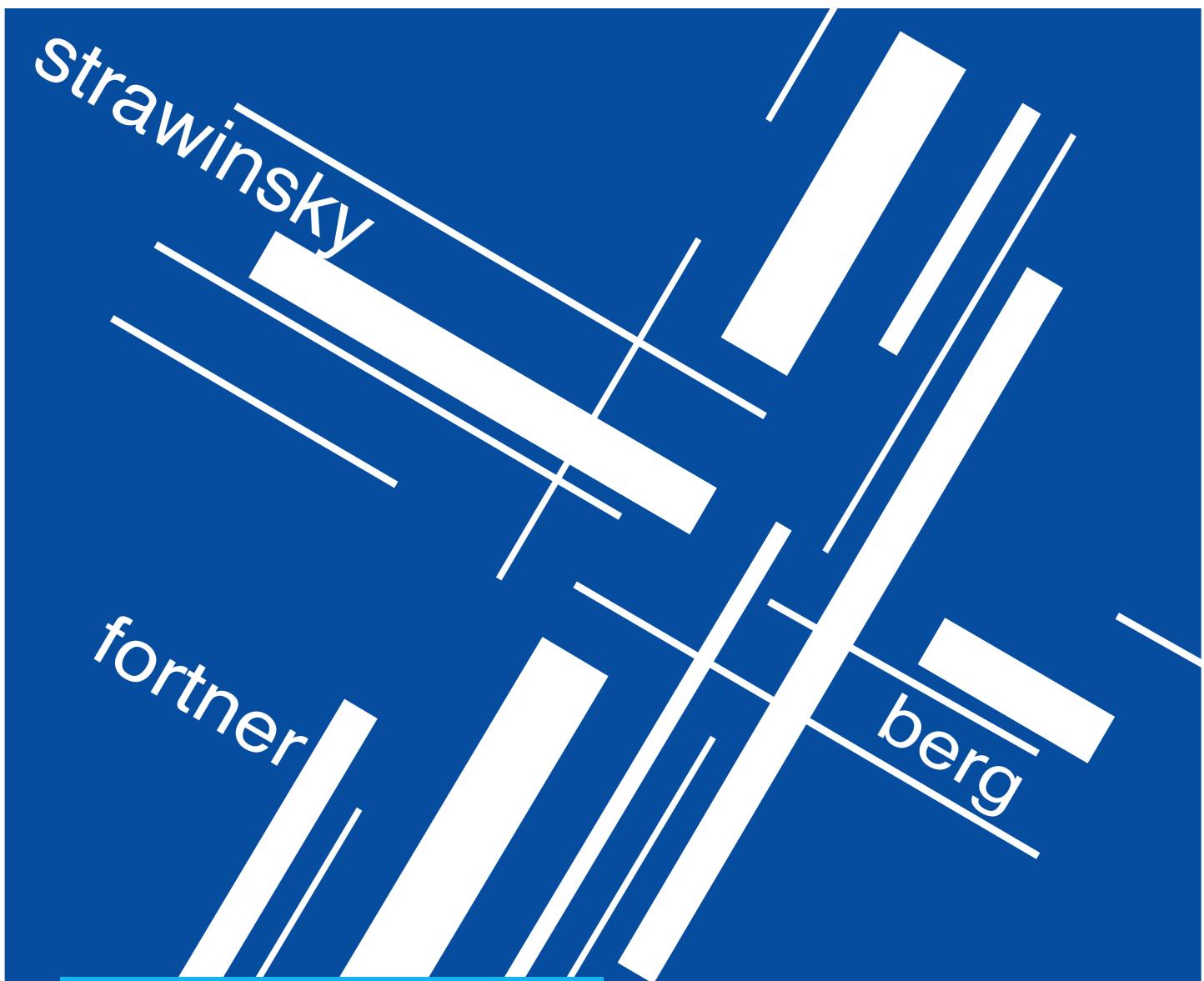
war, and dislike toward enemies. During the war, posters came in large formats and full color and were distributed and displayed to the public on the streets, in classrooms, and more. These posters aimed to gather support for the war and victories, funds for charities, and participation in war bonds.<sup>11</sup>



1914 French lithograph  
From: [The Met](#)  
(Accessed October 23, 2020)



Typographic poster by Joseph Müller-Brockmann showcasing Swiss design in 1962  
From: [Design is History](#) (Accessed October 23, 2020)



### 1940s–1950s: Modernist Graphic Design

Josef Müller-Brockmann from Zurich University of the Arts and Armin Hofmann from the Basel School of Design co-led the movement to create Swiss Design, also known as International Typographic Style or International Style. Swiss

Design reflects simplicity, readability, and objectivity. From this movement, the two schools developed a more complex understanding of visual communications:

a combination of typography and photography. Additionally, this movement valued sans-serif typography, grids, and asymmetrical layouts.<sup>12</sup>

tonhalle grosser saal  
donnerstag, den 6.januar 1955  
20.15 uhr  
12. volkskonzert  
der tonhalle-gesellschaft  
leitung erich schmid  
solisten touty druey, walter lang, klavier  
i. strawinsky symphonie d'instruments à vent  
w. fortner fantasie über bach  
für zwei klaviere und orchester  
alban berg lulu-sinfonie  
karten zu fr. 1.-, 2.- und 3.-  
tonhalle-kasse, hug & co., jecklin,  
eisebureau kuoni,  
noossenschaftsbuchhandlung

Automobil—Club der Schweiz

schützt das Kind!



Typographic poster by Joseph Müller-Brockmann showcasing Swiss design in 1962  
From: [Design is History](#) (Accessed October 23, 2020)



## Post-World War II: The Golden Age of Design

Post-World War II is often known as the golden age of design—specifically, magazine design. Art Directors Henry Wolf at Harper's Bazaar and Esquire and Otto Storch at McCall's took inspiration from Alexey Brodovitch's approach to layout design—the combination of text, type, and images as one composition in editorial design.<sup>13</sup>

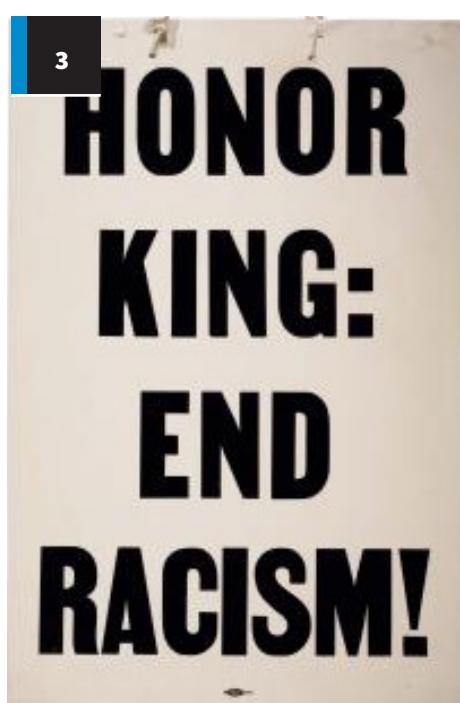
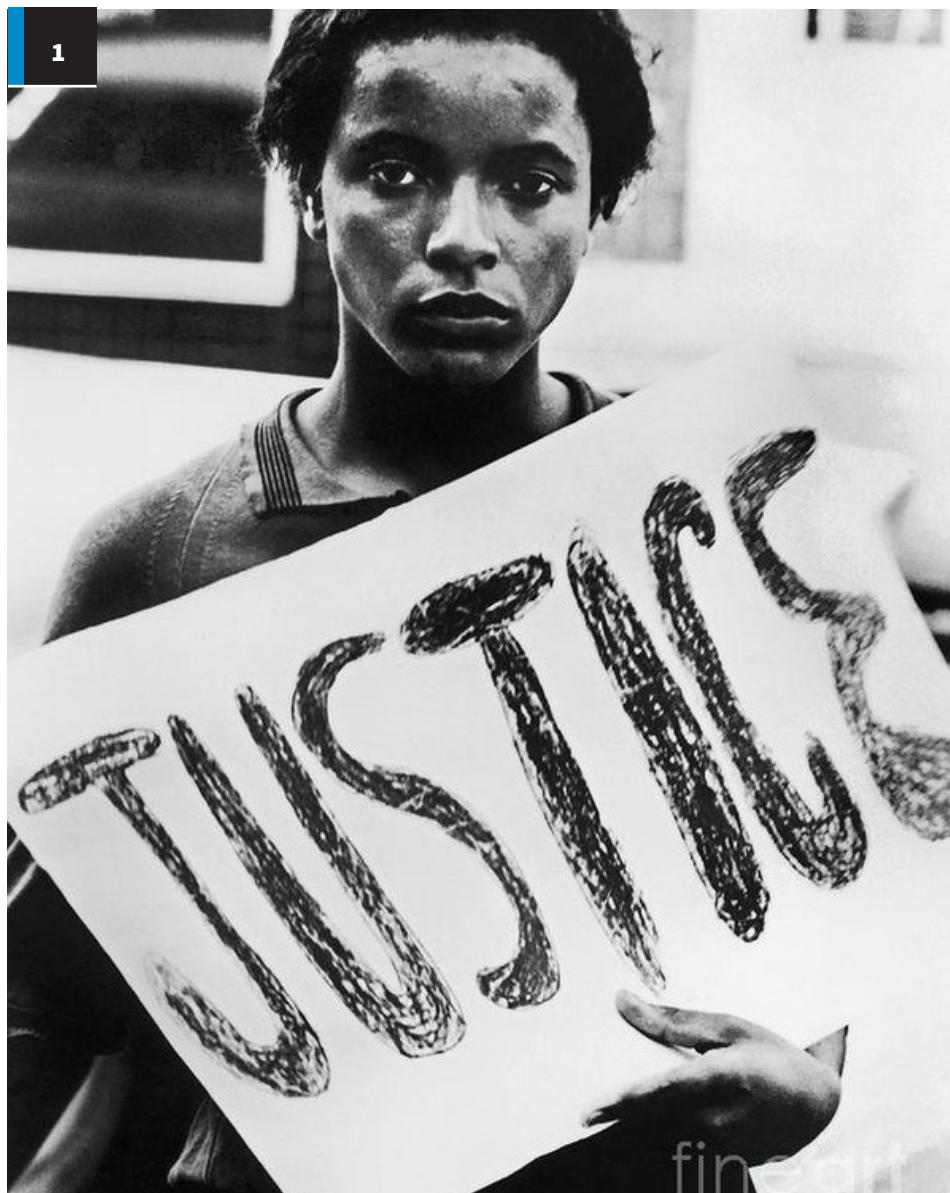
Paul Rand, an American industrial designer, defined American visual culture in the years following World War II. Not only did Rand convince companies to value design through his creation of logos for IBM, UPS, and ABC, but he also transformed the advertising industry by creating a new approach to selling modern products.<sup>14</sup>

*Harper's Bazaar, November 1951; designed by Alexey Brodovitch and photographed by Derujinsk From: [Britannica](#) (Accessed October 23, 2020)*

The development of television changed the roles of graphic and print design and ultimately created more opportunities in design. Television allowed for designers to collaborate on commercials and graphics. Thus, motion design was born.

During this time, American graphic designer and filmmaker Saul Bass and Canadian director Norman McLaren utilized motion graphics and animations in film.<sup>15</sup>

By the 1960s, poster art experienced a resurgence due to the Women's Rights Movement, the Vietnam War, and the Civil Rights Movement.

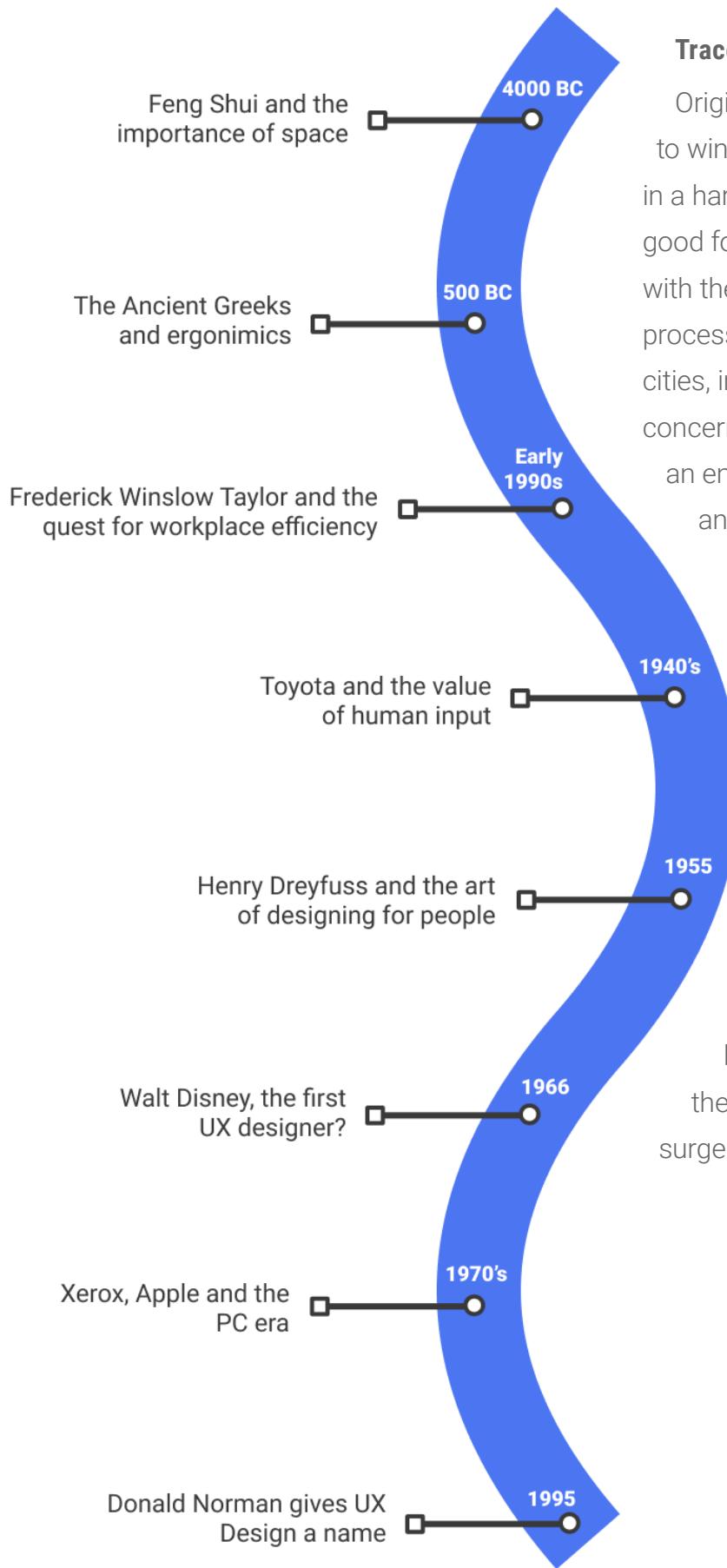


1 - Civil rights, 1961 poster  
From: [Fine Art America](#) (Accessed October 23, 2020)

2 - 1969, civil rights movement, San Jose Library From: [The Atlantic](#) (Accessed October 23, 2020)

3 - Honor King: End Racism! April 8, 1968; 2 - Gilder Lehrman Collection  
From: [The Gilder Lehrman Institute of American History](#) (Accessed October 23, 2020)

# The Evolution of UI/UX Design



## Traces of UX Design Before the Dot Com Boom

Originating in China, feng shui (which translates to wind-water) is a process of arranging spaces in a harmonious way that allows for happiness, good fortune, and other aspects that correspond with the layout of a physical environment. This process applies to the design of buildings, cities, interiors, and even gardens. Feng shui is concerned with the arrangement of objects within an environment and how the objects relate to and allow the flow of qi, or life force energy.<sup>16</sup>

By the fifth century BC, the Ancient Greeks were designing tools and spaces rooted in principles of ergonomics. Ergonomics as a discipline focuses on designing and arranging objects for efficiency and comfort.<sup>17</sup> How does ergonomics relate to UX design? Hippocrates wrote a text explaining that the placement of surgical tools impacted the efficiency of surgeons; he recommended that surgeons place their tools in a way that did not block the surgery but made them easily accessible.

A UI/UX design timeline  
From: [TNW](#) (Accessed October 23, 2020)



## 1977-2016

From its start, Apple has shaped and influenced more markets than nearly any company in any industry.



**1977**

**Apple II**  
Personal computing

**1984**

**Macintosh**  
Simple user interface

**1985**

**LaserWriter**  
Desktop publishing

**2001**

**iPod**  
Digital music players

**2003**

**iTunes store**  
Online music

**2007**

**iPhone**  
Smartphones

**2010**

**iPad**  
Tablets

### Designing for Humans

By the 1900s, the Industrial Revolution had changed the way the world saw and valued human labor. Frederick Winslow Taylor, an engineer, researched the relationship between humans and the tools they used. Taylor wrote *The Principles of Scientific Management*, wherein he argued that the solution to improved efficiency in human labor was systematic management.

In the pursuit for work environment efficiency in 1940, Toyota formed a human-centered production system that valued respect and worker feedback. If factory workers had any feedback, they were allowed to stop the assembly line and suggest possible solutions. This is similar to what UX designers do while testing.

In 1955, Henry Dreyfuss, an industrial designer from America, wrote *Designing for People*, a book that explains UX design and the importance of functionality. Dreyfuss's work improved the usability and accessibility of popular products like the Hoover vacuum cleaner.

By the 1970s, people could buy personal computers. Engineers and psychologists collaborated to design products that focused on user experience. More well-known products, such

as the graphical user interface (GUI) and mouse, came from Xerox's Palo Alto Research Center (PARC). CEO and founder of Apple, Steve Jobs, visited Xerox and adopted the GUI and mouse.

From 1975 to 2000, designers started to break grids and push boundaries of style in their designs. In 1984, Apple released its first Macintosh featuring a GUI, built-in screen, and mouse. Since then, Apple has continued to revolutionize and innovate user experience.<sup>18</sup>

Around the same time, G. Lynn Shostack coined the term service design and published "Designing Services that Deliver," an article that explains the value of efficient internal and operations policies and processes. Shostack argues that the employee and work experience is just as important as user and customer experience. Shostack's article lays the groundwork for ways companies can approach service design.<sup>19</sup>

In the 1990s, Don Norman coined the term user experience while working at Apple. The dot com boom increased the circulation and access to information and knowledge.

## World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#), [Policy](#), November's [W3 news](#), [Frequently Asked Questions](#)

### What's out there?

Pointers to the world's online information, [subjects](#), [W3 servers](#), etc.

#### Help

on the browser you are using

#### Software Products

A list of W3 project components and their current state. (e.g. [Line Mode](#), X11 [Viola](#), [NeXTStep](#), [Servers](#), [Tools](#), [Mail robot](#), [Library](#))

#### Technical

Details of protocols, formats, program internals etc

#### Bibliography

Paper documentation on W3 and references.

#### People

A list of some people involved in the project.

#### History

A summary of the history of the project.

#### How can I help?

If you would like to support the web..

#### Getting code

Getting the code by [anonymous FTP](#), etc.

First website published on the internet  
in 1991

From [W3](#) (Accessed October 23, 2020)

## The Beginnings of Web Design

In 1991, the first website was published on the World Wide Web. At the beginning of the dot com boom, web design focused primarily on information, so it

was text-heavy. Web design started in an environment of slow internet connections (dial-up) and featured light and simple designs.<sup>20</sup>

The screenshot shows a vintage web page from 1991. At the top right, it says 'JULY 14'. The main title 'Welcome to Apple' is displayed in a large serif font next to the Apple logo. Below the title, there's a section for 'EMATE 300' featuring a small image of the device. To the left, a sidebar lists links: 'Find It', 'Product Information', 'Customer Support', 'Technology & Research', 'Developer World', 'Groups & Interests', 'Resources Online', and 'About Apple'. A 'BMW' logo is also visible. The central content area includes a 'CyberDrive' advertisement with the text 'Introducing CyberDrive' and 'Register today for a free CD-ROM.' At the bottom, there's a 'What's Hot' section and an article about 'Preorder Mac OS 8'.

**Welcome to Apple**

JULY 14

EMATE 300

Mobile, Affordable, & Smart

MOVIES FROM MARS

QuickTime VR Takes You Out of this World

BMW

Introducing CyberDrive

Register today for a free CD-ROM.

What's Hot

Preorder Mac OS 8

Now you can [preorder Mac OS 8](#), described by Macworld as "the most comprehensive update to the Mac OS in years, sporting a bold new look, a speedier Finder, more

Be the First to Know

Learn about new Macintosh software releases the moment they become available. Check [Hot Mac Products](#) to hear about From: [Hubspot](#) (Accessed October 23, 2020)

Apple Sites Worldwide

Switzerland

Taiwan

Turkey

UK & Ireland

United States

## News and Events ◆

[What's New](#) ▶[Instant Digital Printing Technology](#) ▶[Other Events & Promotions](#) ▶

## Consumer ◇

[View TV Ads](#) ▶[Instant](#) ▶[Digital](#) ▶[Teens](#) ▶

◆ CHECK THIS OUT



## 600 Silver Express

What would you do with a FREE pack of film? Check out our new commercial!

[▶ Full Product Catalog](#)

## Commercial ◇

[Polaroid Education Program](#) ▶[Promotional Products](#) ▶[OEM](#) ▶[Artist's Studio](#) ▶[Polaroidwork.com](#) ▶[Eyewear](#) ▶

◆ OTHER POLAROID SITES:

[i-Zone](#)[Digital](#)[Work](#)[Worldwide](#)

Polaroid website, early 2000s  
From: [Hubspot](#) (Accessed October 23, 2020)

[Copyright © 2001 - 2002 Polaroid Corporation](#) / [Polaroid Privacy Policy](#)

In 1995, Jolene Rickard, Tuscarora artist, author, researcher, curator, and professor, coined the term visual sovereignty, a concept that reclaims Native cultural traditions, political status, and identities in visual and digital spaces. Hasiw Maskêgon-Iskwêw, a Native agitator, activist, artist, and writer, designed digital spaces ([CyberPowWow](#) and [Spider Language](#)) that aimed to keep Native culture alive, even in digital spaces.



## Key Takeaways

- 1 Design influences every aspect of our lives, from the making of vehicles and machinery to the design of systems and structures in our government, to the way a city is planned.
- 2 While user experience and user interface design are fairly new fields in the industry, visual and print design solidified theoretical and practical foundations for the field of UX design.



## Additional Resources

- 1 [The Meaning of Design](#)
- 2 [A Brief History of Graphic Design](#) (video)
- 3 [How a Gutenberg Printing Press Works](#) (video)

# Chapter 2: Design Trends and Best Practices

---

While most designers aim to create successful designs, doing it is not always easy. The first step in creating a meaningful, usable, and impactful design is knowing how to articulate what makes a design successful. Being aware of current design trends, knowing the best practices designers use, and knowing how to use design inspiration will give you the knowledge you need to study the differences between effective and ineffective design.

## What makes a design successful?

Successful design is functional, easy to use, and looks good. It solves problems through aesthetically pleasing visual solutions. It communicates a message and is impactful. Examples of successful designs are everywhere but are rarely noticed because it is usually not until you are confused or cannot perform a task that you stop to evaluate a design.

Take an average morning. Most people wake up, reach for a phone, and log into some kind of app. It could be a banking app, email, scheduling, or a way to quickly catch up with friends. Maybe you comment on a

picture or check your account balance. You quickly find what you need and can perform the tasks you set out to do. You get up and go on your way, unbothered and ready to take on the day. It seems so simple.

### You have had a successful design experience.

Taken a step further, the design experience you had was carefully created by a group of designers. User experience designers work together studying users so they can anticipate your needs and help you find what you are looking for faster. User interface designers create an unobtrusive and visually pleasing interface so you are not distracted and can find what you need.

Now imagine you wake up, log into your favorite app, and cannot find your account balance. Or the send button is not clear, and you do not know how to send the email you are trying to send. Or the text in your calendar app is the same color as the background, and you cannot see your appointment for the day. You are immediately frustrated, and for some, this is enough to ruin a morning. You have noticed unsuccessful design because it did not fit seamlessly into your life.

## Evaluating Design

There are different principles most designers rely on when evaluating whether a design is successful. Is the design you are looking at easy to understand? Is it solving a problem? Is it pleasing to look at? Does it evoke any emotions? If you answered no to any of the questions above, chances are your design is not successful.

Below are some design examples for you to analyze. As you look at the examples below, ask yourself the following:

**Is the design solving a problem or user need?**

**Is the design easy to understand?**

**Is the design pleasing to look at?**

**How would you improve the design?**



1



Unbox your phone

3

UNPACKED | 03.29.2017  
Live on [www.samsung.com](http://www.samsung.com)

## Design Trends

Design trends show the general direction of the design industry during a set period of time. Trends shouldn't be confused with fads, which are fleeting and are often followed whether or not they serve a purpose. Trends can be UX trends, visual design trends, UI, or product-related. A lot of successful digital design trends stem from designing for technological innovation, changes in public taste, and the desire to expand on learned behaviors.

## Google's Homepage Design: A Study

Take a look at how Google has changed its homepage since its inception to both influence and accommodate changing design trends. Because of the status the company holds, when Google changes its design aesthetic, you can see the changes reflected in the design landscape.

1 - Homepage of the Bolden website  
From: [Interaction Design Foundation](#)  
(Accessed October 23, 2020)

2 - Homepage from the Yale School of Art  
From: [Yale School of Art](#)  
(Accessed October 23, 2020)

3 - Unbox your phone; Samsung homepage  
From: [Samsung](#)  
(Accessed October 23, 2020)

## Google 1998

Their first design includes hard shadows and a boxy design. They do not incorporate a lot of white space. They focus more on information architecture and making sure the user can quickly search the web. Most web design coming out of the '90s is visually similar to Google's homepage.



Google, 1998

From: [Judicious, Inc.](#) (Accessed October 23, 2020)

---

## Google 1999

Within one year of launching, Google simplifies its homepage and introduces a cleaner aesthetic. It reduces the information shown on the screen. It incorporates more white space to reduce confusion and make searching easier. This is close to the design we see today.



Search the web using Google

Google Search I'm feeling lucky

[More Google!](#)

Copyright ©1999 Google Inc.

Google, 1999

From: [Judicious, Inc.](#) (Accessed October 23, 2020)

---

## Google 2002

By 2002, Google has changed its font, decreased the drop shadows, and introduced tabs above their search. They still use a clean aesthetic; however, they have started to add more information to their homepage.



Web Images Groups Directory News

Advanced Search Preferences Language Tools

New! Great research. Small fee. [Google Answers](#).

[Advertise with Us](#) - [Search Solutions](#) - [Services & Tools](#) - [Jobs, Press, & Help](#)

©2002 Google - Searching 2,469,940,685 web pages

Google, 2009

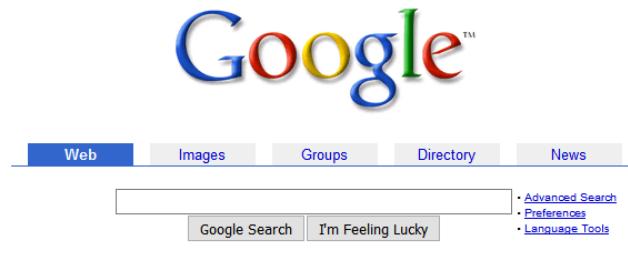
From: [Judicious, Inc.](#) (Accessed October 23, 2020)

## Google 2009

Google removes tabs and simplifies its homepage. This is also the only year Google uses round buttons in their design. The pill-shaped button is still widely used in digital design.<sup>21</sup>

Google, 2009

From: [Judicious, Inc.](#) (Accessed October 23, 2020)



New! Great research. Small fee. [Google Answers](#).

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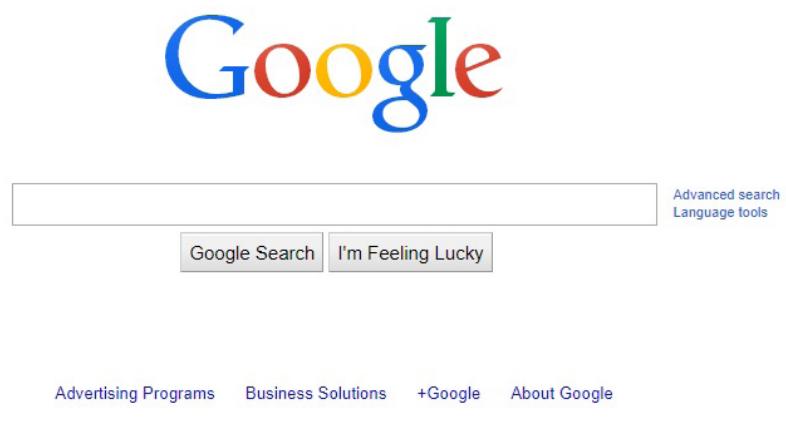
©2002 Google - Searching 2,469,940,685 web pages

## Google 2013

Google changes their logo by removing the drop shadow. They simplify their interface by incorporating white space and removing underlines from their links. This is in line with the flat design trend in digital design still used today.

Google, 2013

From: [Judicious, Inc.](#) (Accessed October 23, 2020)



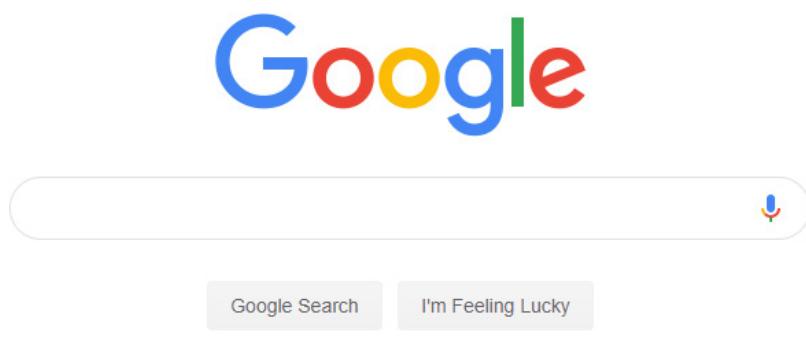
© 2013 - Privacy & Terms

## Google 2016

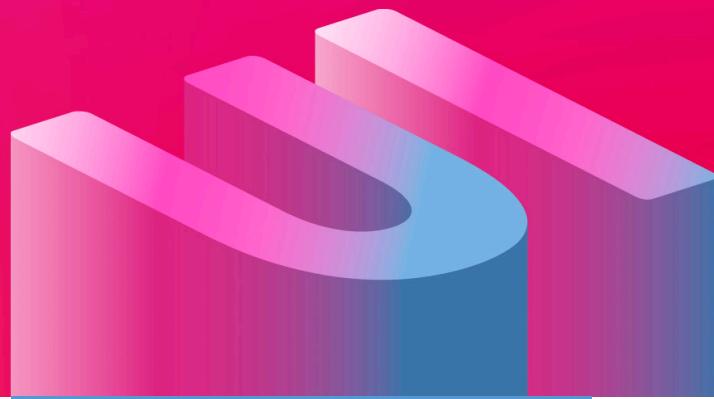
Google changes the font of their logo. This is the first time in their history they use a sans-serif font. They also debut a rounded search bar and more negative space into an even simpler UI. The rounded search bar disappears and is replaced with a rectangular search bar for a couple of years until it is reintroduced in 2019. The 2016 version of Google's homepage is the one used today.

Google, 2016

From: [Judicious, Inc.](#) (Accessed October 23, 2020)



# DESIGN *Trends* of 2 0 2 1



## When to Follow Design Trends

Design trends are everywhere, and it is easy to be inspired when you see both tech giants and smaller companies using new technologies, design styles, and interactions in their products. You will have clients, bosses, and peers enamored with a design they saw encourage you to include it in your design. Or it could be something inspiring you experienced that you have been waiting to include in some of your work. So how do you know when to include a new trend in your design?

12 Superior UX/UI Design Trends to Dominate in 2021  
From: [Pop Web Design](#) (Accessed March 05 2021)

Try asking the following questions:

**Is this the best possible solution to the problem I'm trying to solve?**

**Will this trend make the user's experience better?**



The Design Trends and Technologies That Will Define 2020  
From: [Adobe](#) (Accessed March 05 2021)

## Is this the best possible solution to the problem I'm trying to solve?

Design solutions are not one-size-fits-all. Before following a trend, make sure it will solve a problem and not add anything unnecessary or potentially confusing to your design. The great news with trends is that, if they are widespread enough, people will be experienced with the trend and will not have to learn new behaviors.

## Will this trend make the user's experience better?

If the answer to this question is no, then do not follow it. Each element of your design should make your user's experience better and anticipate their needs.

In addition to being innovative and visually appealing, good design should be long-lasting and serve a purpose. Keeping the above in mind will help ensure you aren't just following trends because they exist and everyone else is doing them.

## Intellectual Property for Designers

Designers gather inspiration from everywhere, and in the industry, it is common to gain inspiration from other designers' work. While being inspired, looking to other designers for ideas, and trend-spotting are a normal part of the design process, you must not plagiarize or appropriate anyone else's creative work.

Plagiarism is using, closely imitating, or claiming credit for another designer's work without permission. Appropriation is taking artwork created by another designer and including it in your own work.

## Intellectual Property Law

Intellectual property law covers original work created by designers and gives them certain rights and protections related to their work. As a general rule, you own the intellectual property rights to anything new you create unless it was created for an employer during the course of your employment.

Since each designer owns the rights to their artistic works, symbols, and designs, plagiarizing another designer's work becomes both an ethical and a legal issue. Most designers' work falls into the categories of copyright, trademarks, and design patents.

## The Copyright Act

Copyright protection covers pictorial, graphic, two-dimensional, and three-dimensional works of fine, graphic, and applied art, photographs, prints, art reproductions, maps, globes, charts, and diagrams (See 17 U.S.C. § 101 for more information).

Your work is protected the moment you create it, as long as it is original and not copied. Registering your copyrighted work is not necessary unless you are worried about copyright infringement.

Copyright infringement is when someone takes your work and uses it without permission. If you are found guilty of copyright infringement, remedies can be both financial and in the form of a cease and desist order. The example below represents a famous case where the AP sued street artist Shepard Fairey for creating art from one of their photographs. The case settled before reaching court.<sup>22</sup>



*Obama Hope and Change poster  
From: [99designs](#) (Accessed October 23, 2020)*

## Trademarks

A trademark protects your design rights when using the design for business purposes. In order for you to trademark your design, it has to identify a business good or service. The original work also has to be unique and not too similar to any other preexisting trademarked work. Labels, packaging, logos, and color schemes are all eligible for trademark protection.

Trademarks are registered with the USPTO (the United States Patent and Trademark Office.) Some famous trademarks include the Adidas logo, the Twitter logo, and the Coca-Cola logo. Collection of famous trademarks

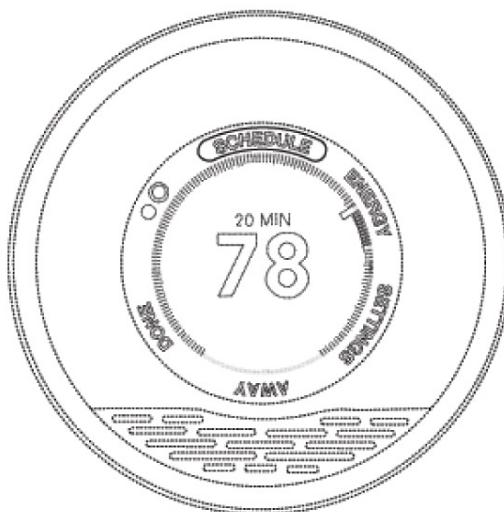


*Collection of famous trademarks*

## Design Patterns

A design patent can help protect designers' GUIs, UX/UI patterns, and icons. The patents can protect both static and moving features. Design patents keep others from using any designs substantially similar to other patented designs. Below is an example of Nest's patent for the circular controls on the display of their thermostat's interface.<sup>23</sup>

Patents are usually complicated to file, and the applications include multiple steps. Most patents are filed with the help of IP lawyers.



Nest's Design Patent D687,047



Nest Learning Thermostat

*Nest design patents and illustrations From: [TechCrunch](#) (Accessed October 23, 2020)*



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*Creative Commons licenses  
From: [OpenSource.com](#) (Accessed  
October 23, 2020)*

## Creative Commons Licenses

Creative Commons licenses allow you to distribute your otherwise copyrighted work. With a CC license, no one has to worry about copyright infringement if they follow the conditions of your license. They are often used when you want to

allow the public to use and build on the work you created. CC licenses are flexible because the creator gets to choose how their work can be distributed and provides for different types of attribution requirements.<sup>24</sup>



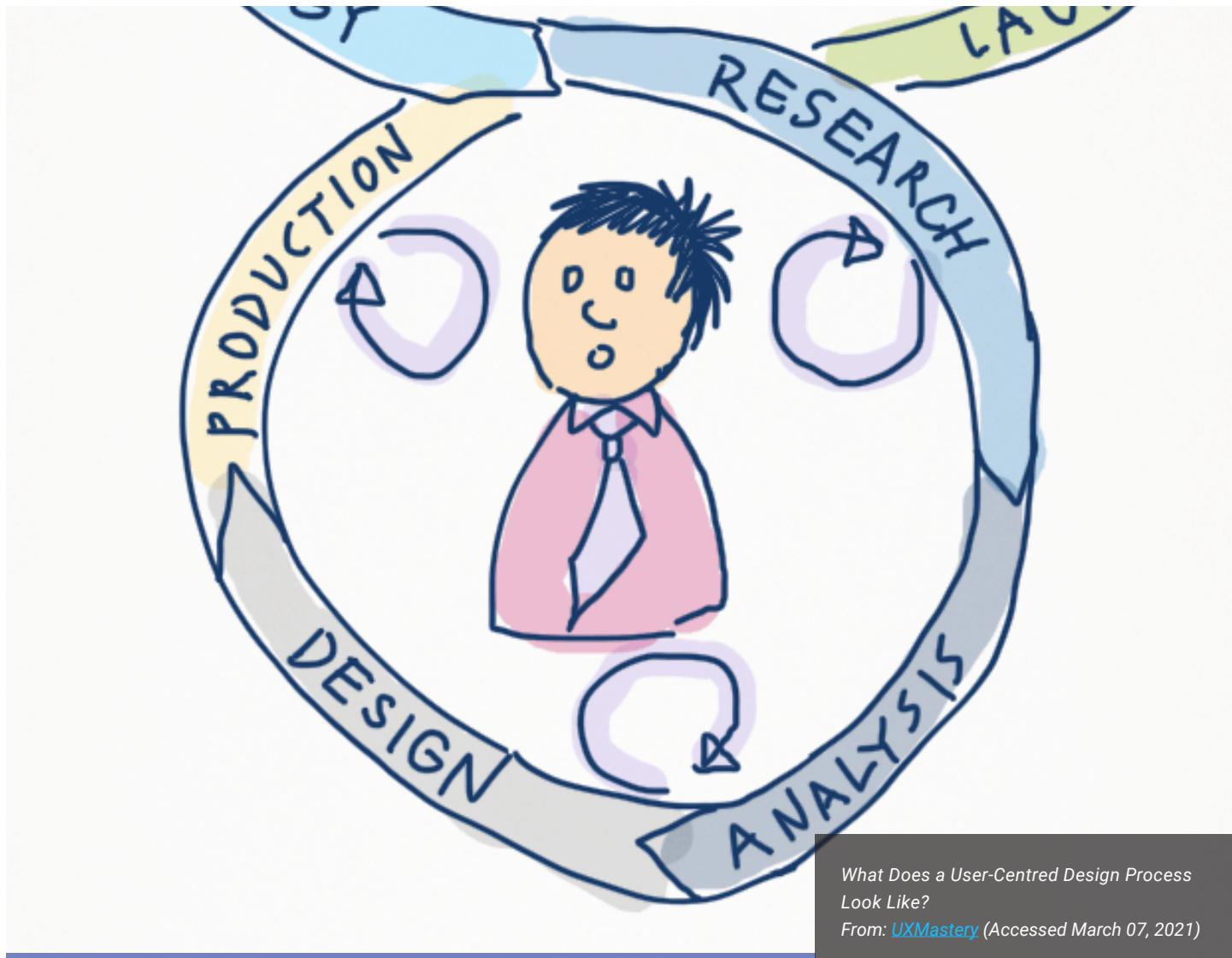
## Key Takeaways

- 1 Successful design is functional, easy to use, and looks good. It solves problems through aesthetically pleasing visual solutions. It communicates a message and is impactful.
- 2 Design trends show the general direction of the design industry during a set period of time. Trends shouldn't be confused with fads, which are fleeting and are often followed whether or not they serve a purpose.
- 3 Intellectual property law covers original work created by designers and gives them certain rights and protections related to their work. As a general rule, you own the intellectual property rights to anything new you create unless it was created for an employer during the course of your employment.



## Additional Resources

- 1 [Dribbble](#)
- 2 [Gestalt Principles for Design](#)
- 3 [Awwwards](#)



*What Does a User-Centred Design Process Look Like?*

From: [UXMastery](#) (Accessed March 07, 2021)

## Chapter 3: User-Centered Design

Regardless of how beautiful a design looks or how noble the intentions of the designer, a design is only successful if it is usable and solves a user's problems. User-centered design aims to ensure that the users are central to the product design process.

The Interaction Design Foundation defines user-centered design, or UCD, as "an iterative design process in which designers and other

stakeholders focus on the users and their needs in each phase of the design process. UCD calls for involving users throughout the design process via a variety of research and design techniques to create highly usable and accessible products for them."<sup>25</sup>

# History of User-Centered Design

## Participatory Design

User-centered design is often thought to have derived from participatory design. Participatory design is a democratic process for social and technological design that states users should be involved in designs that they will be using.

It originated in Russia and Germany but gained popularity in Scandinavia in the 1960s and 1970s. The early versions of participatory design were rooted in work with trade unions and workplace democracy, where workers were empowered to codetermine their workplace. One of the most well-known participatory design projects was the 1980s Scandinavian project, UTOPIA. The goal of this project was to create a better workplace by using experience-driven design methods that focused on worker experiences.

## The Engineer-Driven Approach

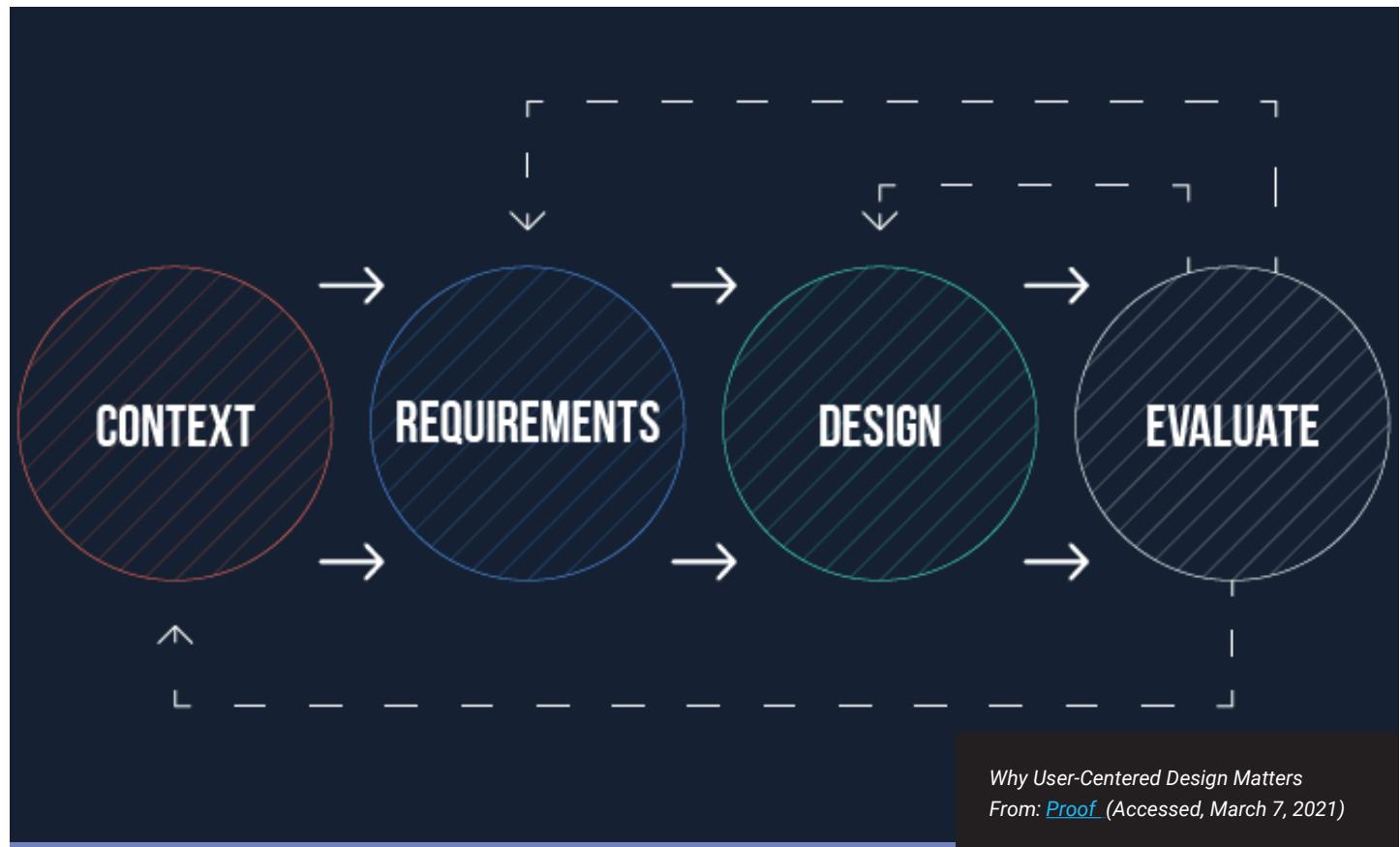
In an engineer-driven model, the emphasis is placed on the development and technical specifications of a product as opposed to problem-solving. Large, clunky mainframe computers became common in the 1960s within large industries and governmental services to automate repetitive manual tasks. These machines were error-prone, expensive, and required deep technical knowledge to operate.

Originally, technical products were led by engineers who developed software and hardware that paid little attention to the usability of their products. From a business perspective, the engineer-driven model might seem more efficient and cost-effective but can be problematic over time if the user needs are not being addressed.

## The Design-Driven Approach

By the 1980s, businesses began realizing that computers in the workplace were beneficial for increasing productivity and reducing menial manual tasks. During this time, it quickly became clear that usability was a vital requirement for software development, which led to the design-driven approach. The design-driven approach starts by looking at the user and their problems and creates the technical solution in response to that research. It is a user-centric approach that has become more common in products and in technology organizations over the past decade.

The term “user-centered design” is commonly attributed to Don Norman, a design theorist and the co-founder of the Nielsen Norman Group, one of the world leaders in research-based user experience. Often thought of as the father of UX, user-centered design gained popularity after the 1986 publication of Norman’s book, *User-Centered System Design: New Perspectives on Human-Computer Interaction*.



## User-Centered Design Process

User-centered design is not a rigid step-by-step procedure but a loose framework that enables designers to ensure their products are being driven by user needs, as opposed to business or development needs alone. User-centered design can include a variety of methodologies, including interviewing, surveying, brainstorming, and affinity diagramming.

The UCD process aims to ensure that designers fully understand the user, have data to drive their decisions, try out many possible solutions, then validate those designs through testing and evaluation. There are many different processes that all lead to the same end result: solving users' unique problems. The Interaction Design Foundation, for example, describes the process this way:

### **Specify the context of use.**

Determine who will be using your product, what they will be using it for, and when they will be using it.

### **Specify requirements.**

Determine user needs, wants, and goals that must be met in order for the product to be successful.

### **Create design solutions.**

There are many ways to create a solution using design, ranging from rough concepts to a full design.

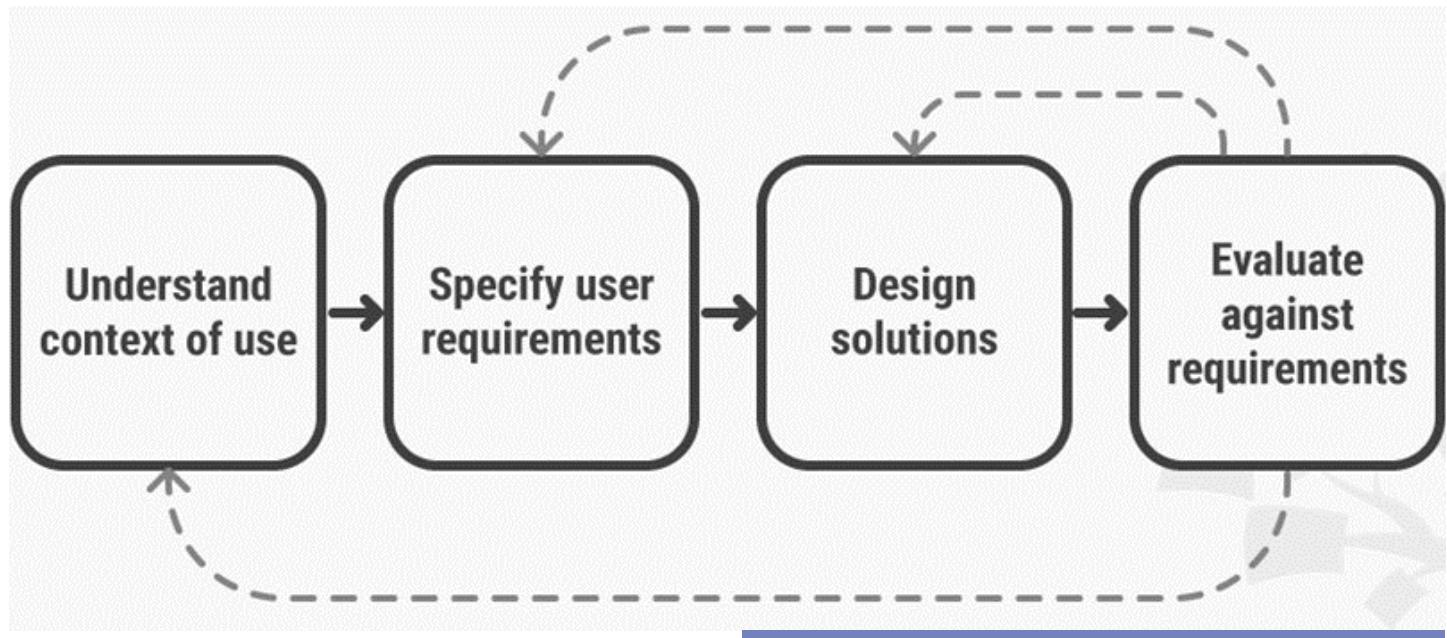
### **Evaluate designs.**

This is often done through usability testing with actual or potential users to determine if the design solution was successful and addresses user needs.<sup>26</sup>

# Considerations of UCD

While user-centered design is a great process to help organizations, teams, and designers to ensure that the user

is at the center of the design and development process, there are a few things to keep in mind.



## The world is not linear

Although user-centered design was meant to be an iterative process, UCD can oftentimes be seen as a linear process. Linearity does not reflect the messiness of the world we live in, and designers may be asked to join a project at any point during the process.

## Learning can happen at any part of the design process.

Learning happens at all times. As designers learn more about the problem space, its context, and constraints, they may find themselves shifting and iterating on solutions based on new findings at any point of the process.

## Consider the different types of constraints.

Constraints are not only limited to users and how they use products. Companies may have constraints that designers need to consider, such as business goals, budget, timeline, market needs, and feasibility.

User-centered design process From: [Interaction Design Foundation](#)  
(Accessed October 23, 2020)

### Context is important.

User-centered design focuses on users, but it is just as important to look at the world broadly. Think about the systems and structures that already exist in the world and how they may affect design solutions or outcomes.

### Creativity is part of the process.

While this process provides a data-driven approach to design, some of the best designs still come to life because of the creativity of designers' ideas and the execution of their designs.



## Key Takeaways

- 1 User-centered design aims to ensure that users are central to the product design process.
- 2 The UCD process aims to ensure that designers fully understand the user, have data to drive their decisions, try out many possible solutions, then validate those designs through testing and evaluation.
- 3 There are many different processes that all lead to the same end result: solving users' unique problems.



## Additional Resources

- 1 [The Guide to Design](#)
- 2 [User-Centered Design](#)
- 3 [History and Nature of User-Centered Design](#)
- 4 [The Four Waves of User-Centered Design](#)
- 5 [Before the Backlash, Let's Redefine User-Centered Design](#) (video)



*Best graphic design software solutions of 2019  
From: [Learnworthy](#) (Accessed March 07 2021)*

# Chapter 4: Design Software Overview

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## Approaching Design Software

Designers are asked to adapt to new technology every day. Fortunately, learning can often happen on the job. While designers are asked to adapt, it is less about what software you know and more about knowing how to use software to achieve your end goal or proposed design solution.

Learning new software can feel intimidating, but do not lose hope! The more you practice the

tools, the better you will get and the more comfortable you will feel. The key is to understand the nature of technology and embrace it with a growth mindset. When you are feeling stuck, your peers, instructors, and the internet will be great resources to help you find answers.

Learning a new tool can be hard. Fortunately, the more you practice on one tool, the easier you will adjust to the other tools. Why? Design software often uses similar user interface patterns.

# Visual/Graphic Design Software

In 1982, former Xerox employees John Warnock and Chuck Geschke founded Adobe Inc. Based in San Jose, California, Warnock named the company after the creek behind his home.

Today, Adobe creates products and software that are still seen as the industry standard in design, photography, publishing, and other creative industries



## Adobe Photoshop

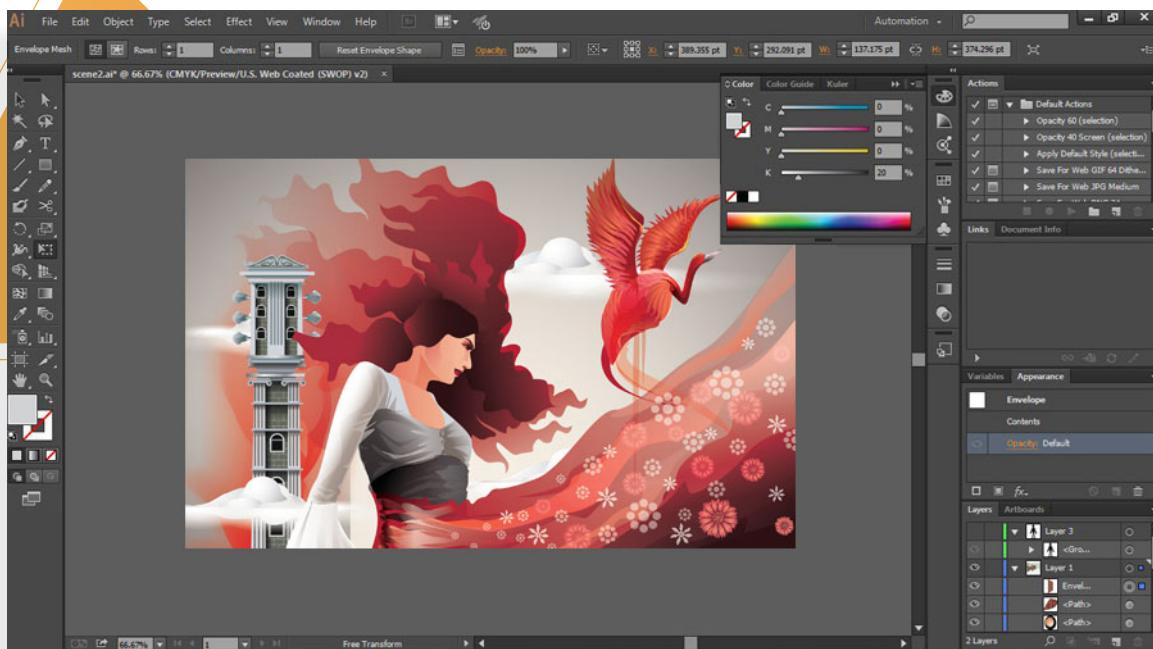
Before Photoshop became the Adobe Photoshop we know today, brothers John and Thomas Knoll developed an image processing tool. In 1987, John worked in the special effects department for Star Wars while Thomas pursued a PhD in image processing at the University of Michigan. After buying a brand new Macbook, Thomas found that he could not show images on the monitor, so he decided to develop a tool

to solve this issue. When John saw Thomas' progress, John was impressed and realized that the image-processing tool was similar to Pixar's. Technically, Photoshop's first iteration was called Display. By 1988, the name was changed to ImagePro, then PhotoShop<sup>27</sup>. That same year, the Knoll brothers sold the license to Adobe<sup>28</sup>.

Photoshop is software for designers, artists, and photographers who need to

*The Adobe Photoshop interface*  
From: [Camera Jabber](#) (Accessed January 15, 2021)

design, retouch, and edit images, art, and illustrations. Photoshop redefined photo and image quality for desktop publishing and printing. Today, over 90% of creatives use Photoshop<sup>29</sup>.

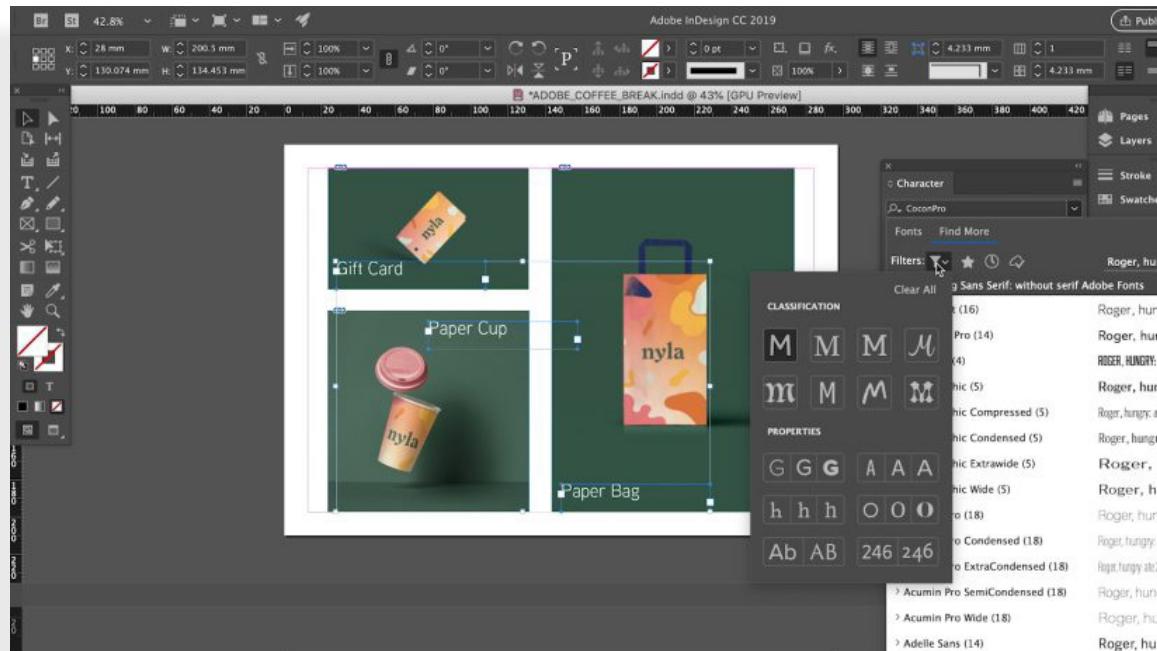


## Adobe Illustrator

Released in 1987 by Adobe Systems Inc., Illustrator revolutionized the graphic design industry. Illustrator is software for designers and artists who

want to design shapes, colors, effects, and typography for print, applications, websites, software, video, animations, and much more.

*The Adobe Illustrator interface  
From: [EDUCBA](#) (Accessed January 15, 2021)*

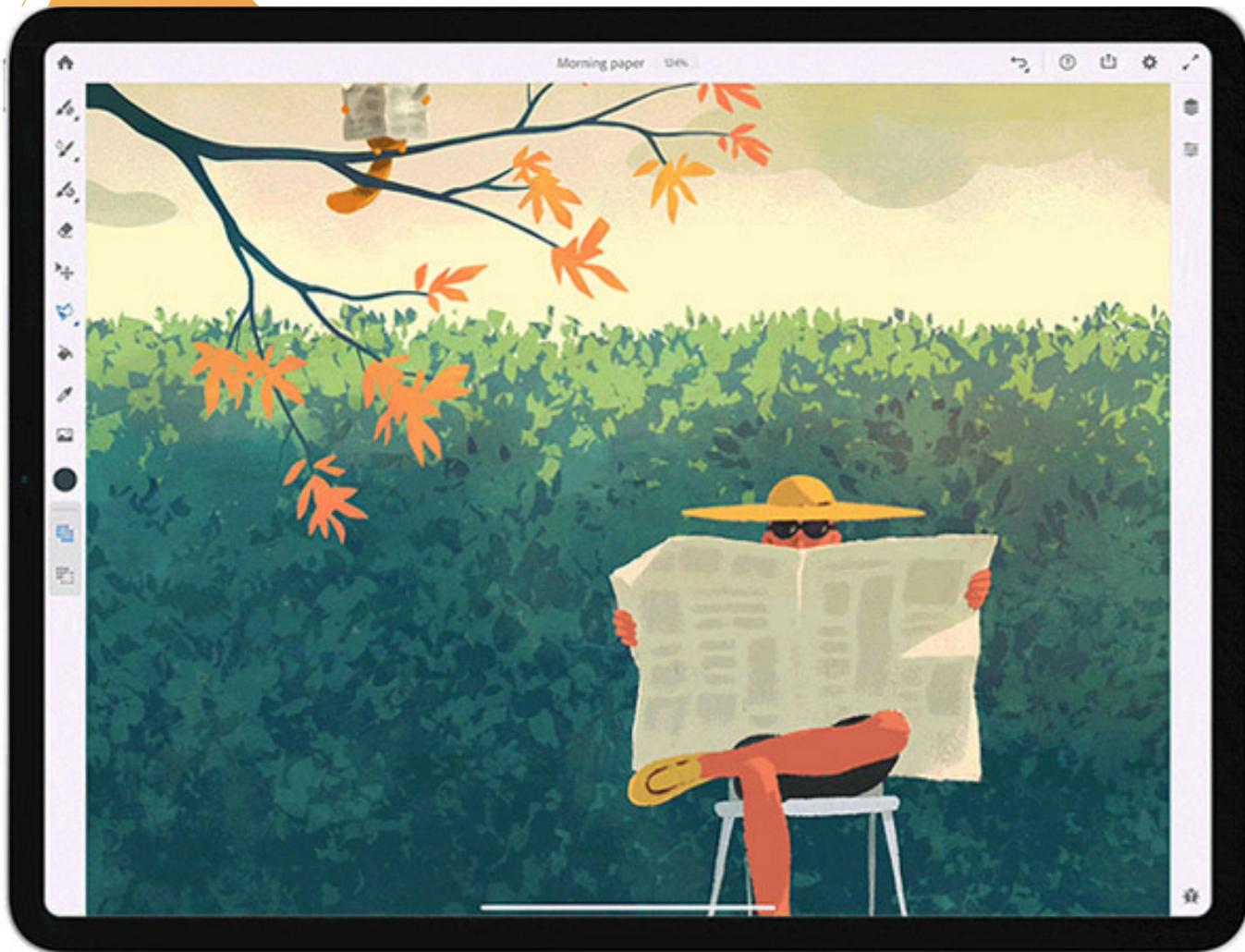


## Adobe InDesign

In 1999, Adobe Systems Inc. launched InDesign, a layout and design software for professional

designers. InDesign focuses on connections between graphics and typography.

*The Adobe InDesign interface  
From: [Adobe](#) (Accessed January 5, 2021)*



## Adobe Fresco and Draw

In 2019, Adobe Systems Inc. launched Fresco (or known as Adobe Draw), a drawing

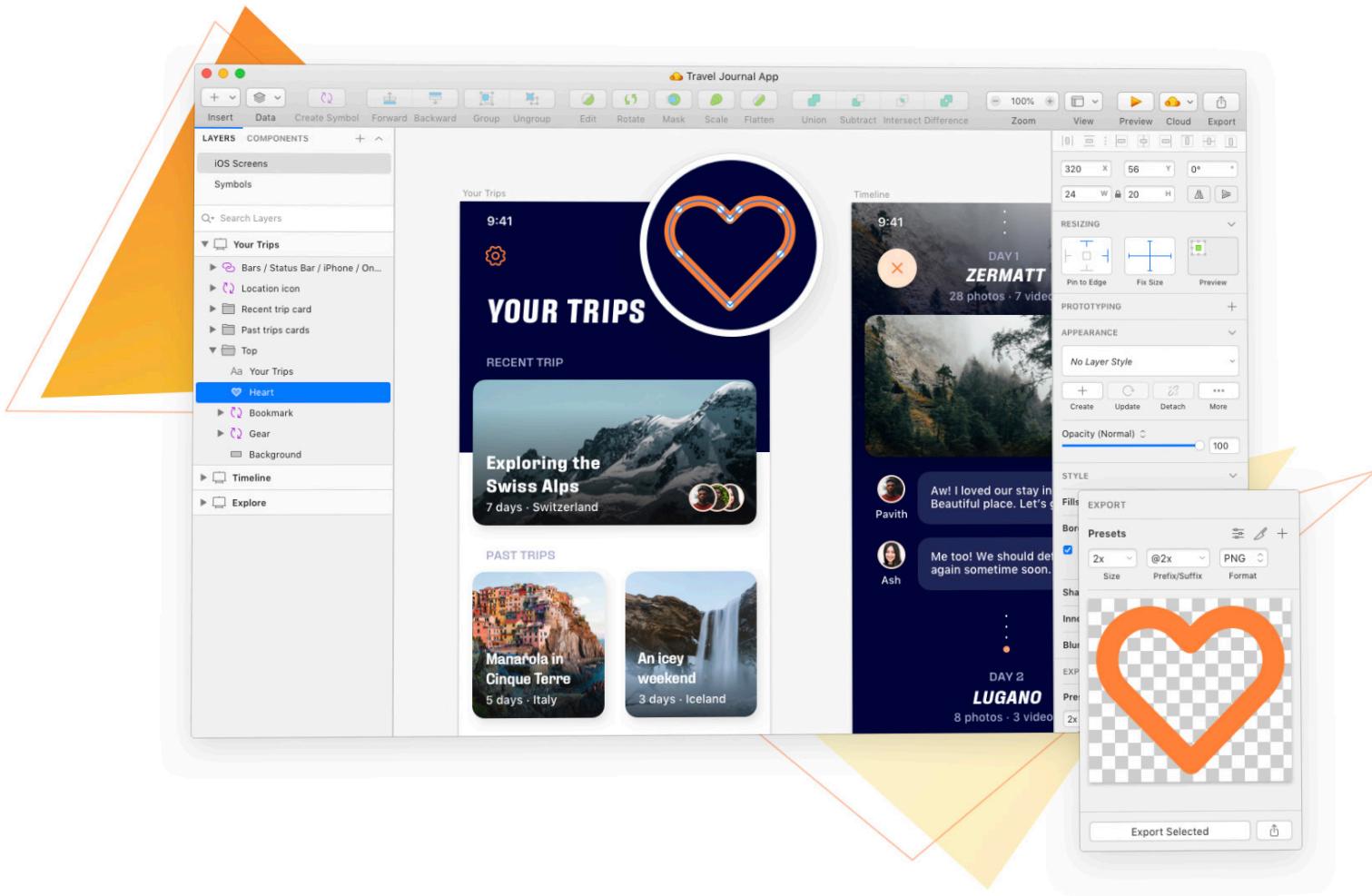
application for iPads. Fresco is for artists and creatives who want to draw and paint.

*The Adobe Fresco for iPad interface  
From: [Adobe](#) (Accessed October 23, 2020)*

# UI/UX Design Software

UX and UI Designers use wireframing and prototyping software to build minimum viable products and proofs of concept. Much of this

software was developed in response to limitations within the Adobe suite to fit what UI and UX designers needed.



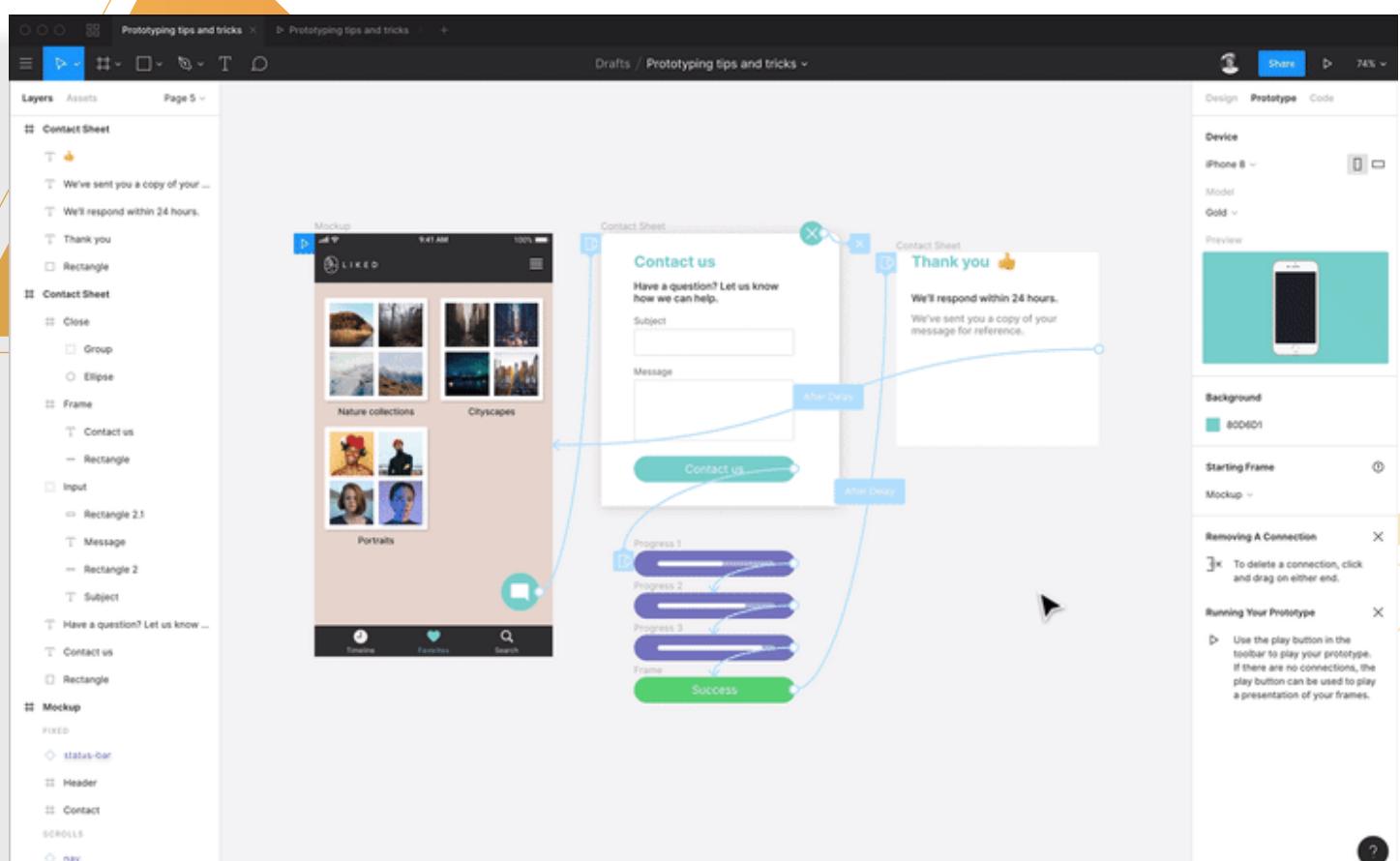
## Sketch

In 2008, Pieter Omvlee founded Sketch. He developed the product while enrolled in a Computer Science course at the University of Twente in the Netherlands. Sketch helps designers create wireframes of digital products and user interfaces for desktop and mobile devices. Unfortunately,

Sketch is only available for Mac and doesn't include the robust prototyping features that are integral to some other software programs. Due to the nature of the software, Sketch is challenging to use for team collaboration, according to designers, yet over 1 million designers use Sketch.<sup>30</sup>

*The Sketch interface*

From: [Sketch for Designers](#) (Accessed October 23, 2020)



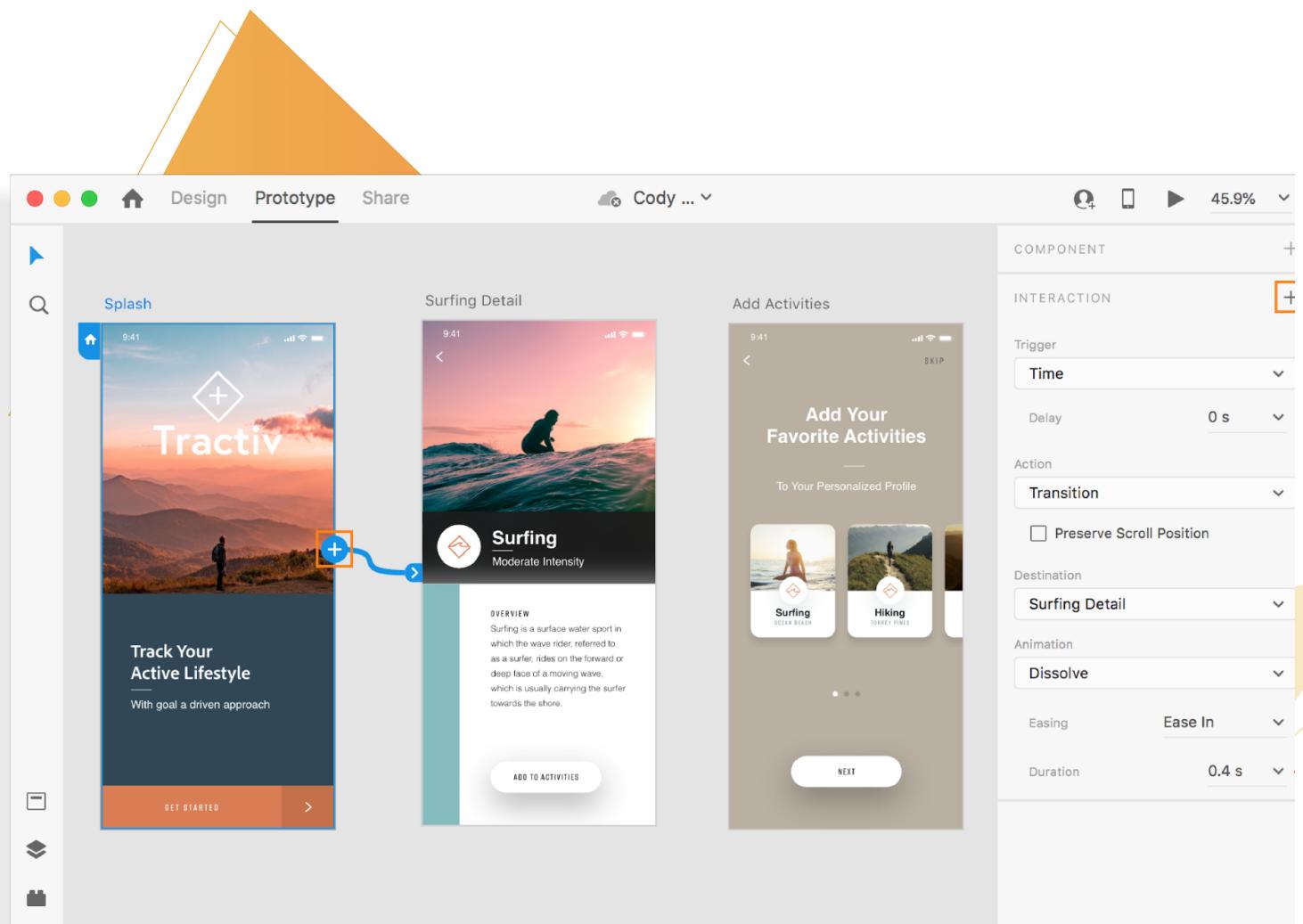
## Figma

In 2012, Brown University students Dylan Field and Evan Wallace collaborated to create a tool that makes design more accessible. Field dropped out of college to pursue the Thiel Fellowship, which allowed Field to spend time and resources (after receiving a \$100,000 grant as a Thiel Fellow) to pursue Figma full-time. Figma launched in 2016.

Figma, a wireframing and prototyping software, is for designers who want to create wireframes and prototypes for digital products on desktop and mobile devices. The biggest advantage to Figma is its collaboration feature. As a web- and browser-based software, design and development teams can work together simultaneously on Figma in a seamless experience.

*The Figma interface*

*From: [Figma](#) (Accessed October 23, 2020)*

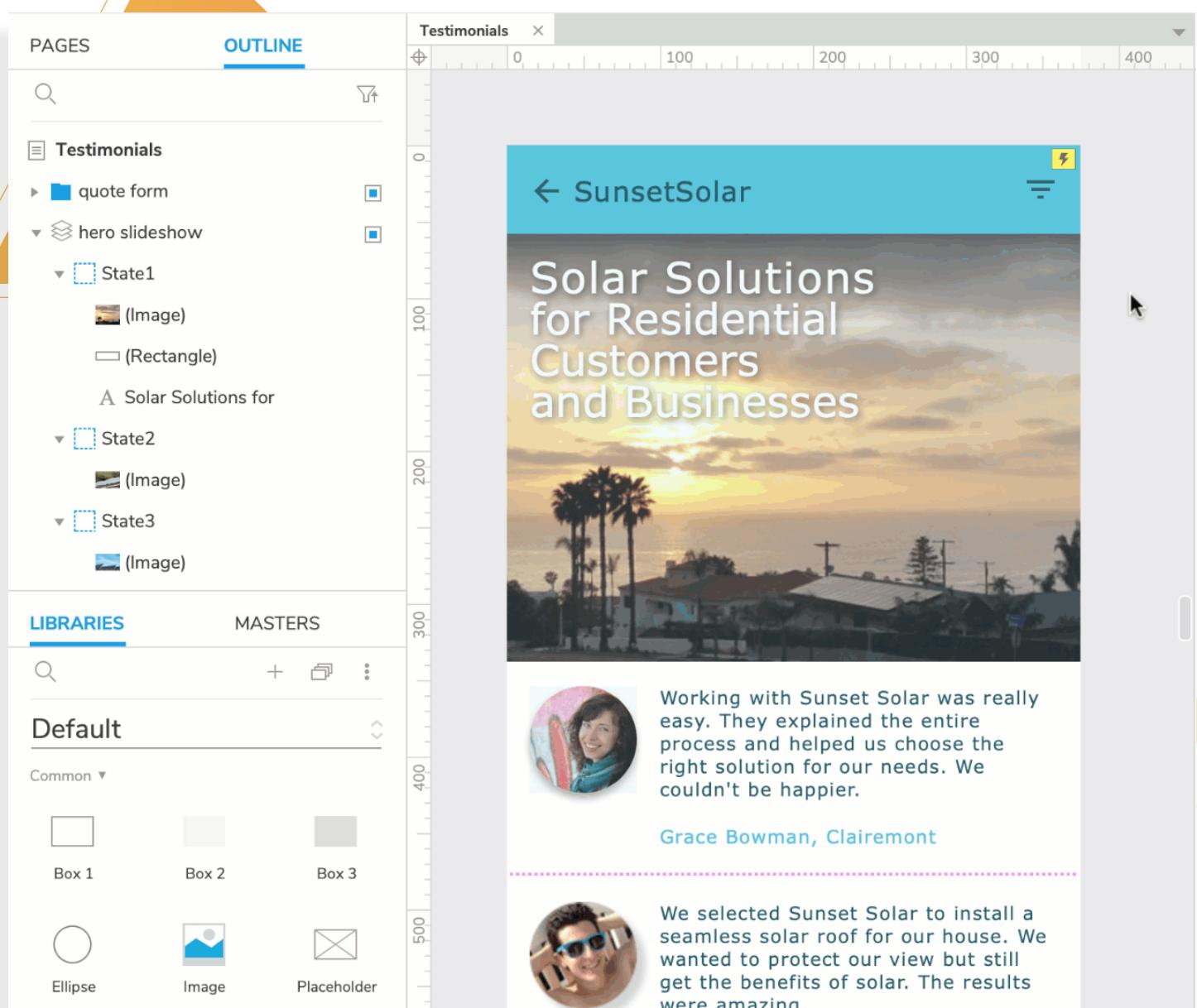


## Adobe XD

In March 2016, Adobe Systems Inc. released Adobe Experience Design CC as a macOS beta. In December 2016, Adobe released a Windows 10 version. In October 2017, Adobe announced that Adobe Experience Design CC (now known as Adobe XD) was no longer in beta mode. Adobe XD is software for designers who want to create wireframes for desktop and mobile devices. Additionally, designers can use Adobe XD to

prototype wireframes and add interactions and animations. What makes Adobe XD a special prototyping tool is that designers can easily hop between Adobe products; for example, designers can edit images on Photoshop directly from XD. This software is available for Mac and Windows and comes with a companion mobile app for iOS and Android.

*Adobe XD interactive prototype  
From: [Adobe](#) (Accessed October 23, 2020)*



## Axure

Founded in 2002, Axure is a wireframing and prototyping tool for designers. Whether designers need to create wireframes, diagrams, or customer journeys, Axure RP helps teams document issues. Features include the ability to

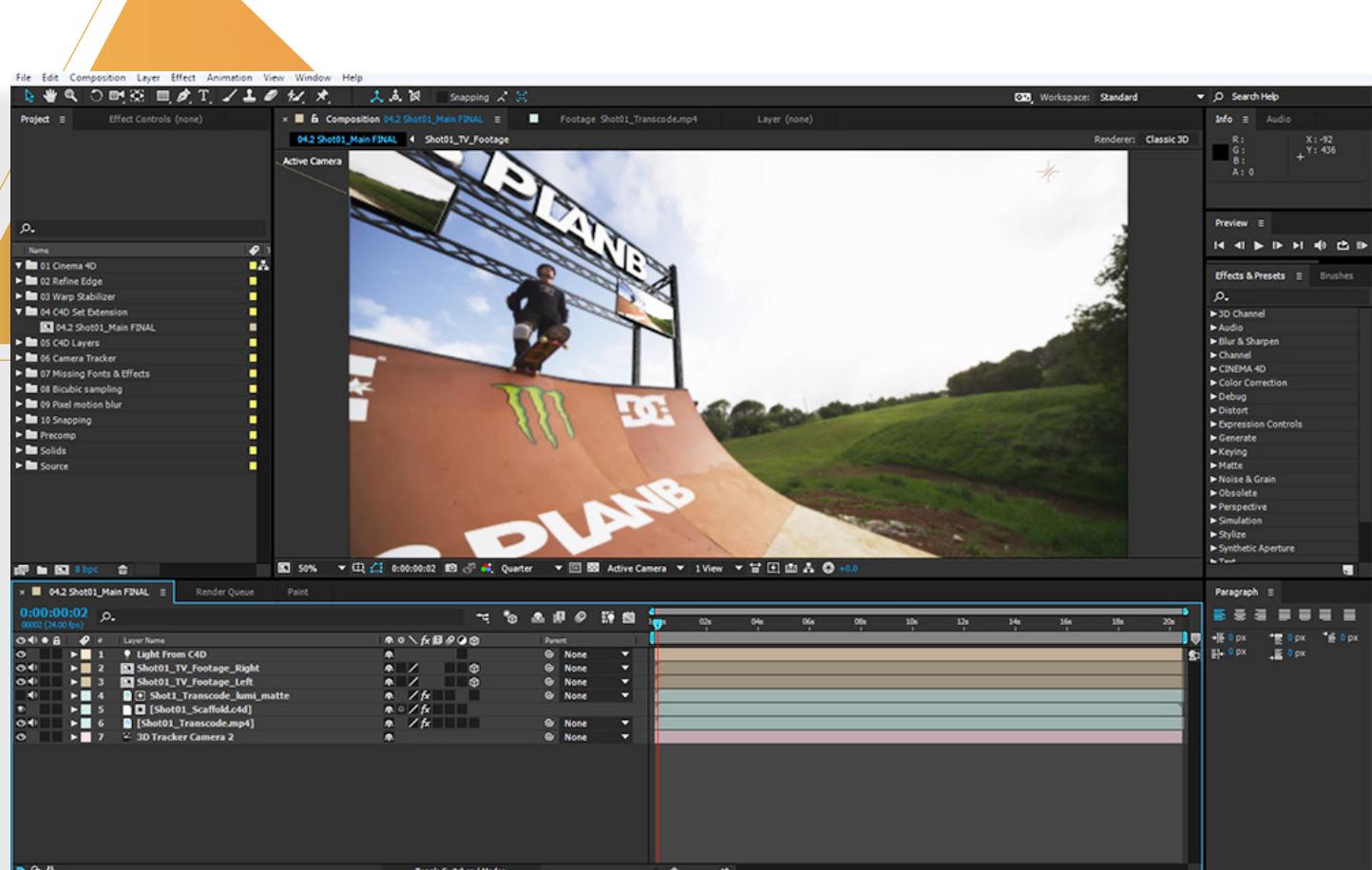
share Axure prototypes and wireframes from Adobe XD, Figma, and Sketch; audit layout; download assets; discuss feedback and changes by email, Slack, or Microsoft Teams; create team projects; and turn fixed photos into interactive prototypes with Axure Cloud.

*Axure dynamic panel workflow  
From: [Axure](#) (Accessed October 23, 2020)*

# Interaction Design Software

Interaction, motion, and other designers use specific software to create complex prototypes, animations, and motion graphics. Each of these

software programs can be used for multiple functions and varies in ease of use. For motion design, Adobe After Effects is still the industry leader.



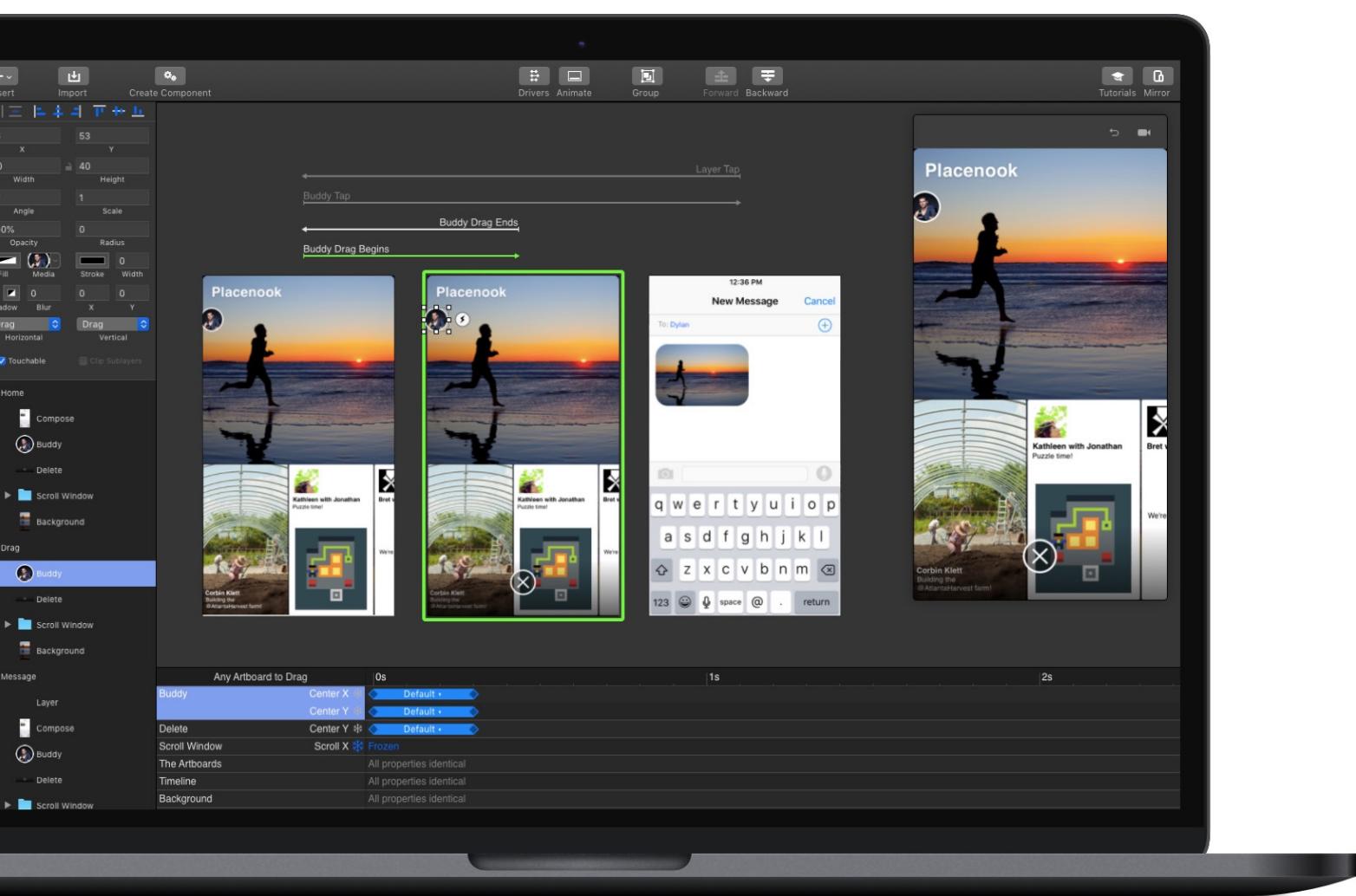
## Adobe After Effects

Developed by David Herbstman, David Simons, Daniel Wilk, David M. Cotter, and Russell Belfer at the Company of Science and Art (CoSA), the first two versions of After Effects were released in 1993. That same year, a company called Aldus acquired CoSA and After Effects. Later in 1994, Adobe Inc. acquired Aldus. Adobe's official

first version of After Effects was technically version 3.0.

Adobe After Effects is a complex and robust software program for designers, creatives, agencies, video editors, digital marketing professionals, producers, and animators to create videos, animations, and composites (multiple videos combined into one).

*Adobe After Effects interface  
From: [Adobe](#) (Accessed October 23, 2020)*

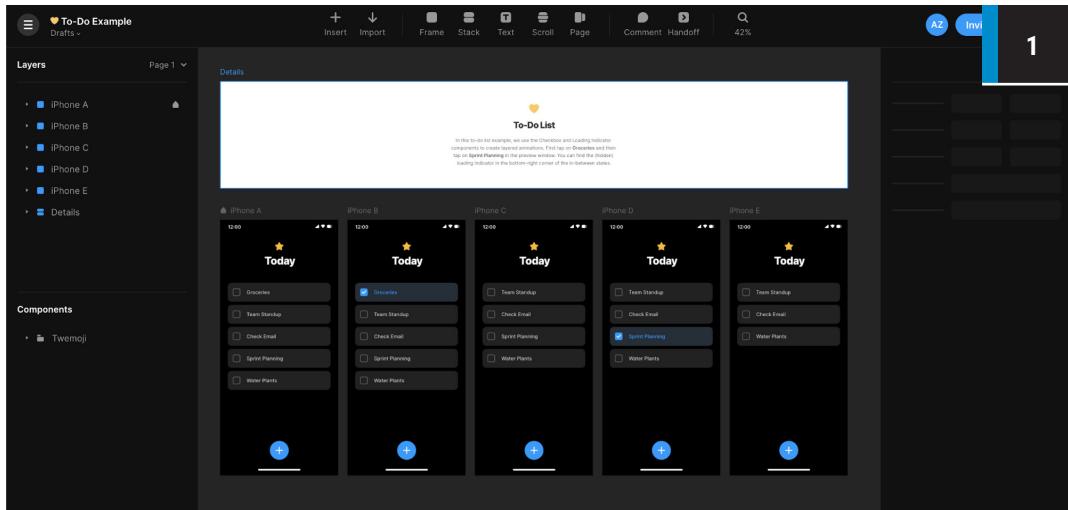


## Principle

Daniel Hooper founded Principle in 2014 after leaving Apple, where he was an engineer working on the photography apps for iOS and OS X.<sup>31</sup> Principle is software that allows designers to create animated and interactive interfaces for mobile and desktop devices. Features include the ability to

import designs from Figma or Sketch and share the interactive interfaces to a mobile device by plugging the device into the computer through Principle Mirror. Unfortunately, Principle is currently only available for Mac right now.

**Principle interface**  
From: [Principle for Mac](#) (Accessed October 23, 2020)



## Framer

Founded by Jorn van Dijk and Koen Bok, Framer is a free, web-based prototyping tool for designers and teams. Features include multi-user editing, sharing, commenting, systems components, mobile preview, and much more.

## InVision

Founded in 2011 by CEO and Founder Clark Valberg, InVision is software that helps designers create interactive prototypes for digital products, collaborate with teammates, update component libraries, and sync changes for the team. If designers use InVision to prototype, they will need to use Sketch or InVision Studio to create wireframes.

1 - Frame interface  
From: [Framer](#) (Accessed February 3, 2021)

2 - InVision interface  
From: [InVision](#) (Accessed October 23, 2020)



## Key Takeaways

- 1 Learning a new tool can be hard. Fortunately, the more you practice on one tool, the easier you will be able to adjust to the other tools. Why? Design software often uses similar user interface patterns
- 2 Adobe Creative Suite is still thought of as the leading industry software in design, photography, publishing, and other creative industries.
- 3 Specific UI/UX design software, including Sketch and Figma, was developed in response to limitations within the Adobe suite to fit what UI and UX designers needed.
- 4 Interaction, motion, and other designers use specific software, including Adobe After Effects, Principle, and Framer to create complex prototypes, animations, and motion graphics. Adobe After Effects is still the industry leader.



## Additional Resources

- 1 [Figma Resources](#)
- 2 [Adobe XD Resources](#)
- 3 [Sketch Documentation](#)
- 4 [Principle Documentation](#)
- 5 [Framer Tutorials](#)
- 6 [Axure RP Reference](#)

# Chapter 5: Storytelling in Design

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Anytime you see a memorable advertisement, watch a film, or sit through a presentation, you can be sure that the creator, designer, or filmmaker used fundamental principles of visual communication to help them craft a memorable

experience for the audience. Of all the different communication methods, including verbal and nonverbal, visual communication relies on signs, graphic designs, films, and typography.<sup>32</sup>



## The History of Storytelling

People first began communicating visually over 40,000 years ago. Before different groups of people could communicate using verbal language, they communicated by drawing and carving symbols and stories. When you look at these ancient carvings and drawings, you will notice that they use some of the storytelling and composition methods we use today.<sup>33</sup>

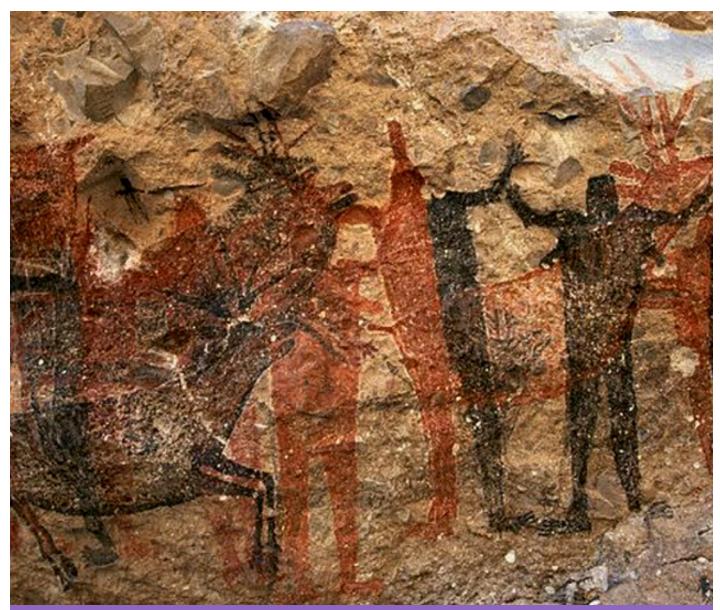
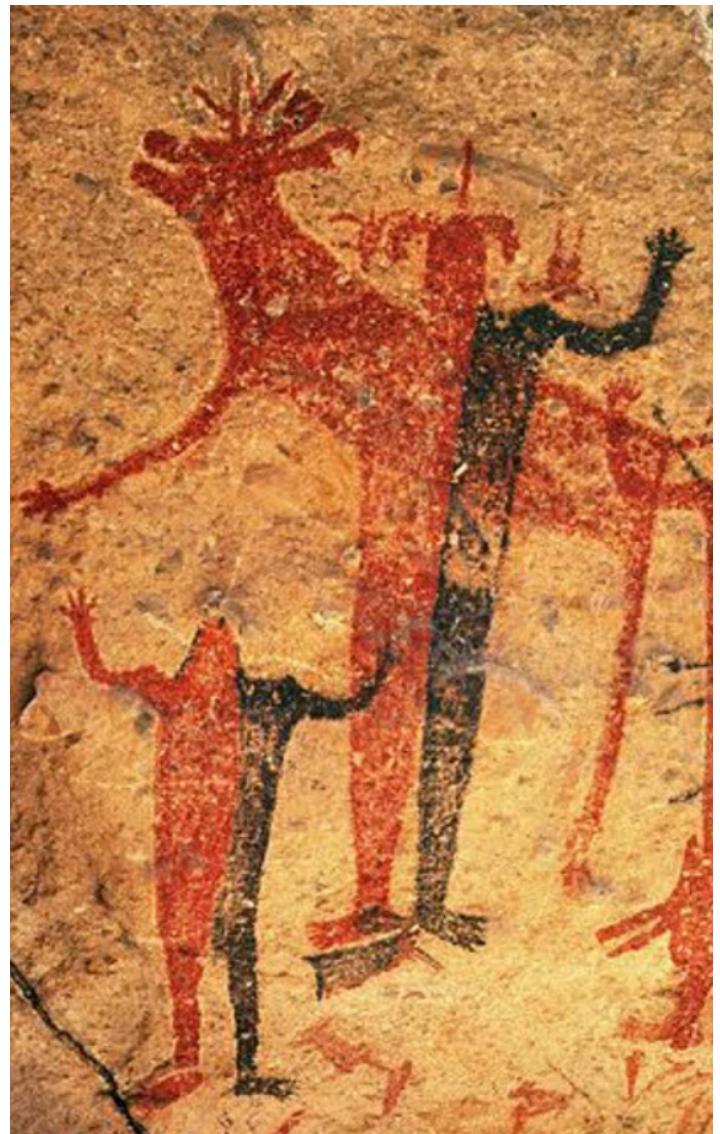
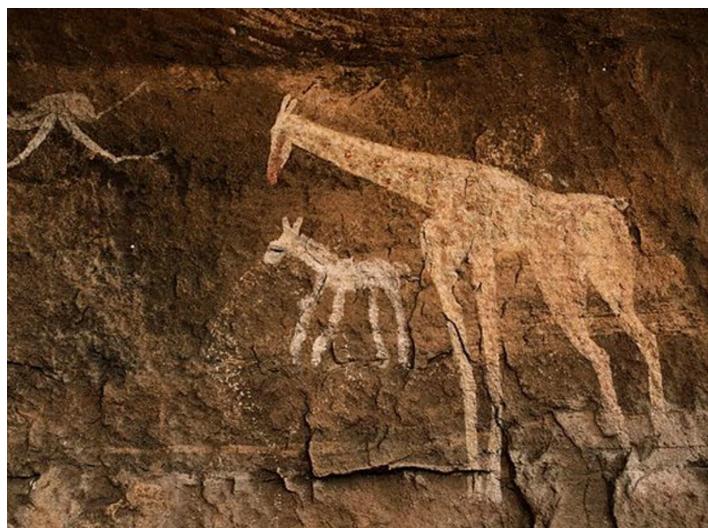
*Principle interface*

From: [Principle for Mac](#) (Accessed October 23, 2020)

## Cave and Rock Paintings

Cave and rock paintings date back to prehistoric times and are usually painted on rock or cave ceilings and walls. Cave and rock paintings were drawn by tribe elders and revolved around the large wild animals that were present at the time. The paintings were drawn with manganese oxide, charcoal, red and yellow ochre, and hematite.

Look at the paintings below and try to figure out how the creator used space, imagery, symbols, composition, scale, and movement to tell hunting stories. Are there any similarities between the below paintings and any modern designs you have seen?

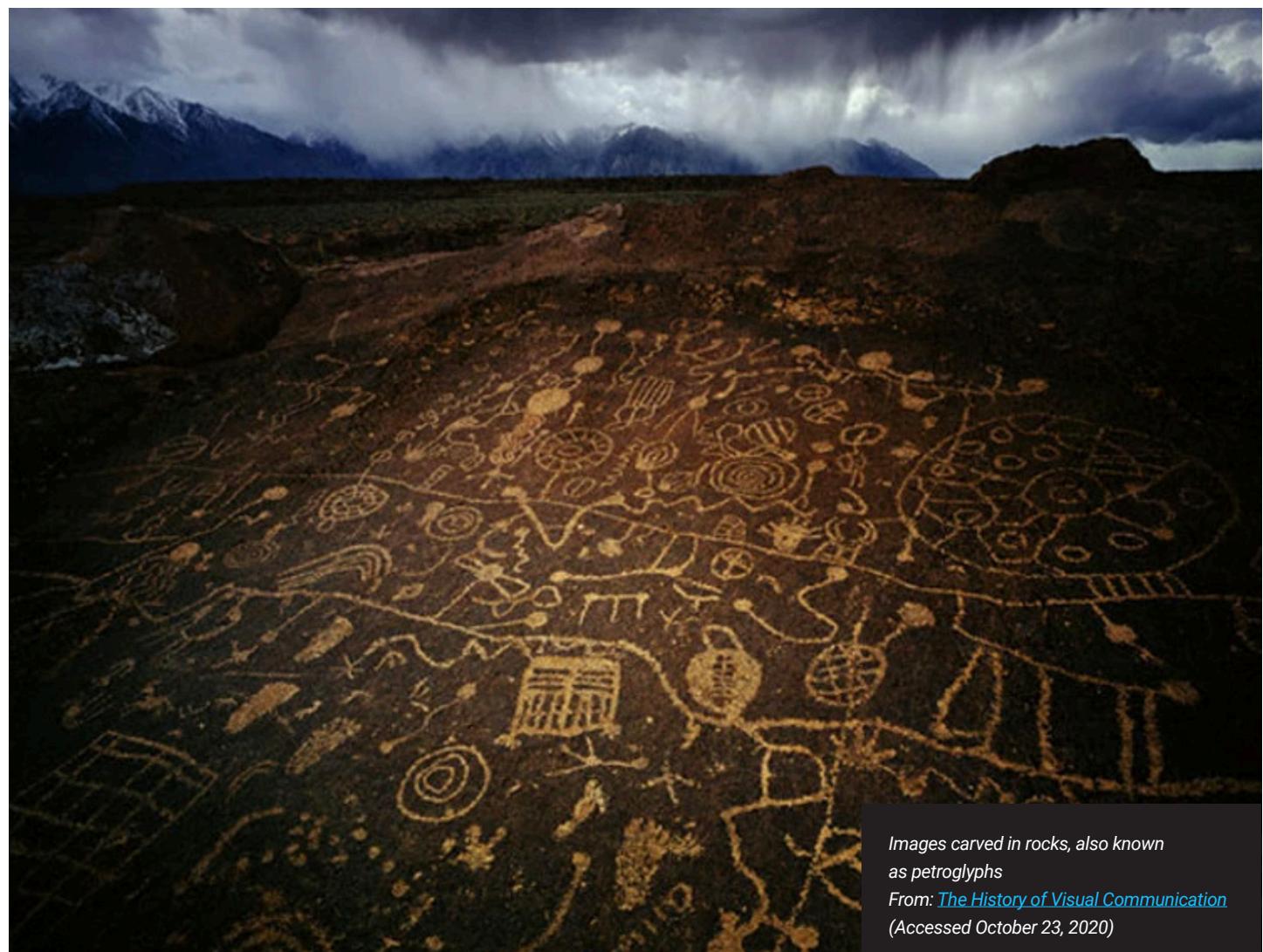
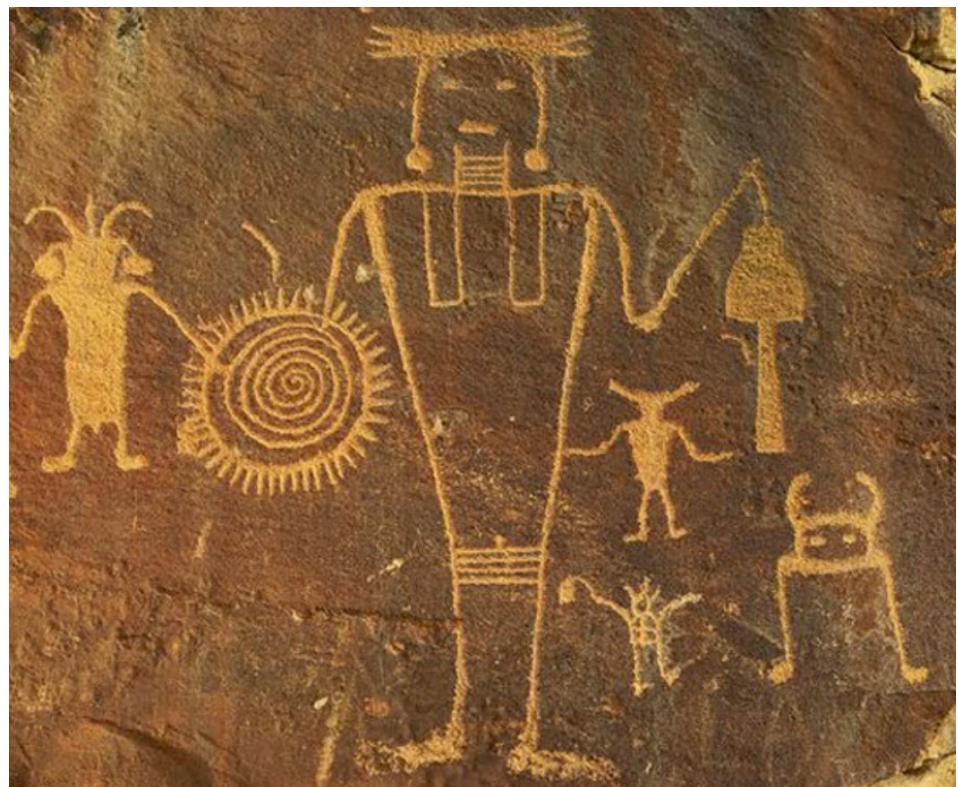


Cave paintings

From: [The History of Visual Communication](#) (Accessed October 23, 2020)

## Petroglyphs and Geoglyphs

**Petroglyphs** are images carved in rock by prehistoric people. This form of pre-writing used symbols for communication and stemmed approximately from 10,000 BC. It is believed that many petroglyphs represent a ritual or symbolic language.<sup>34</sup> Again, notice how ancient peoples used size, scale, and composition to communicate meaning using symbols.



Images carved in rocks, also known as petroglyphs  
From: [The History of Visual Communication](#)  
(Accessed October 23, 2020)

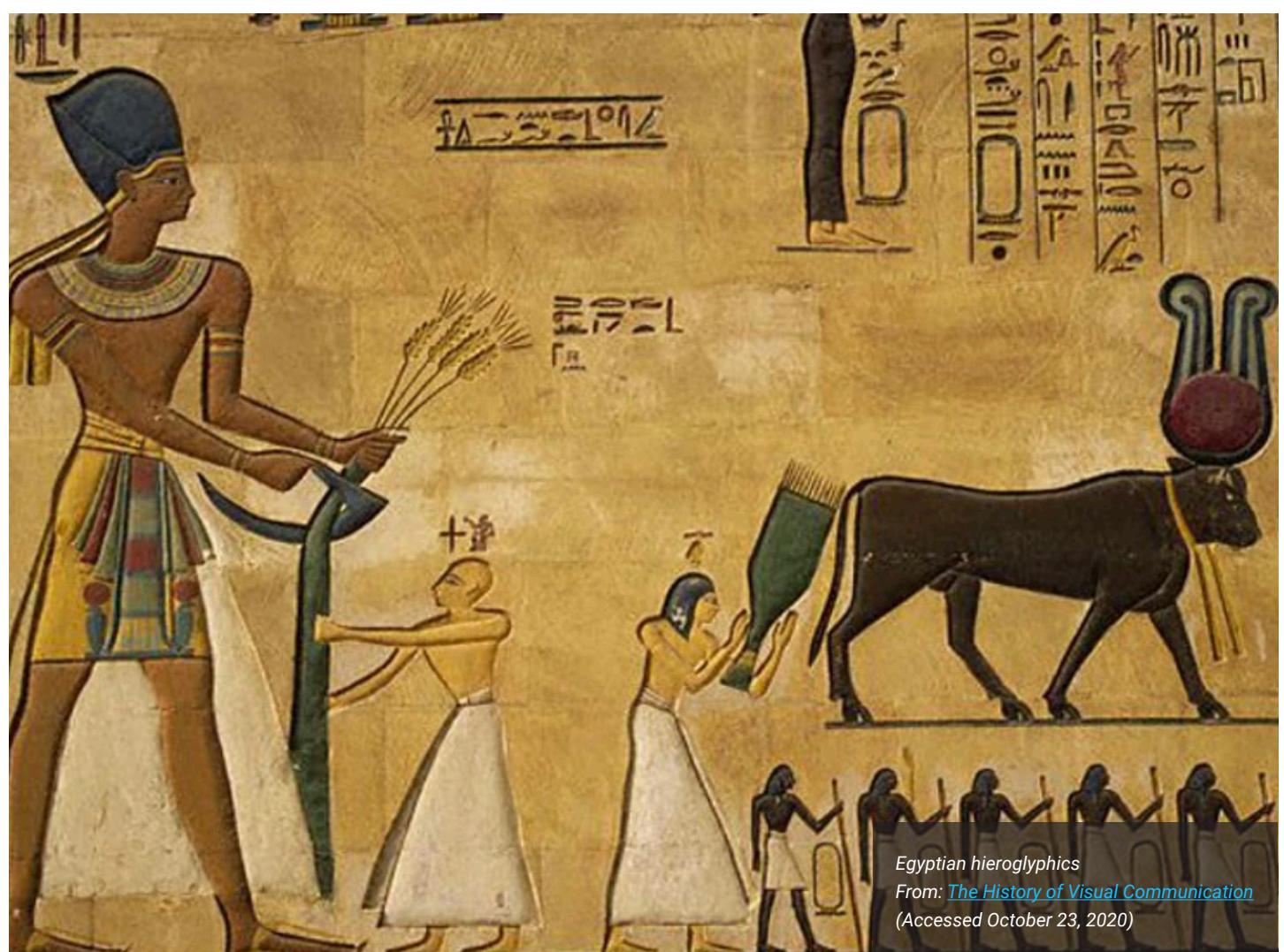
**Geoglyphs** are drawings, large motifs, and designs produced on the ground, either by arranging natural elements to create a positive geoglyph or by removing elements and exposing the ground to create a negative geoglyph. One of the most famous negative geoglyphs is the Nazca Lines in Peru.<sup>35</sup> These glyphs are so massive that they can only be seen from high distances.



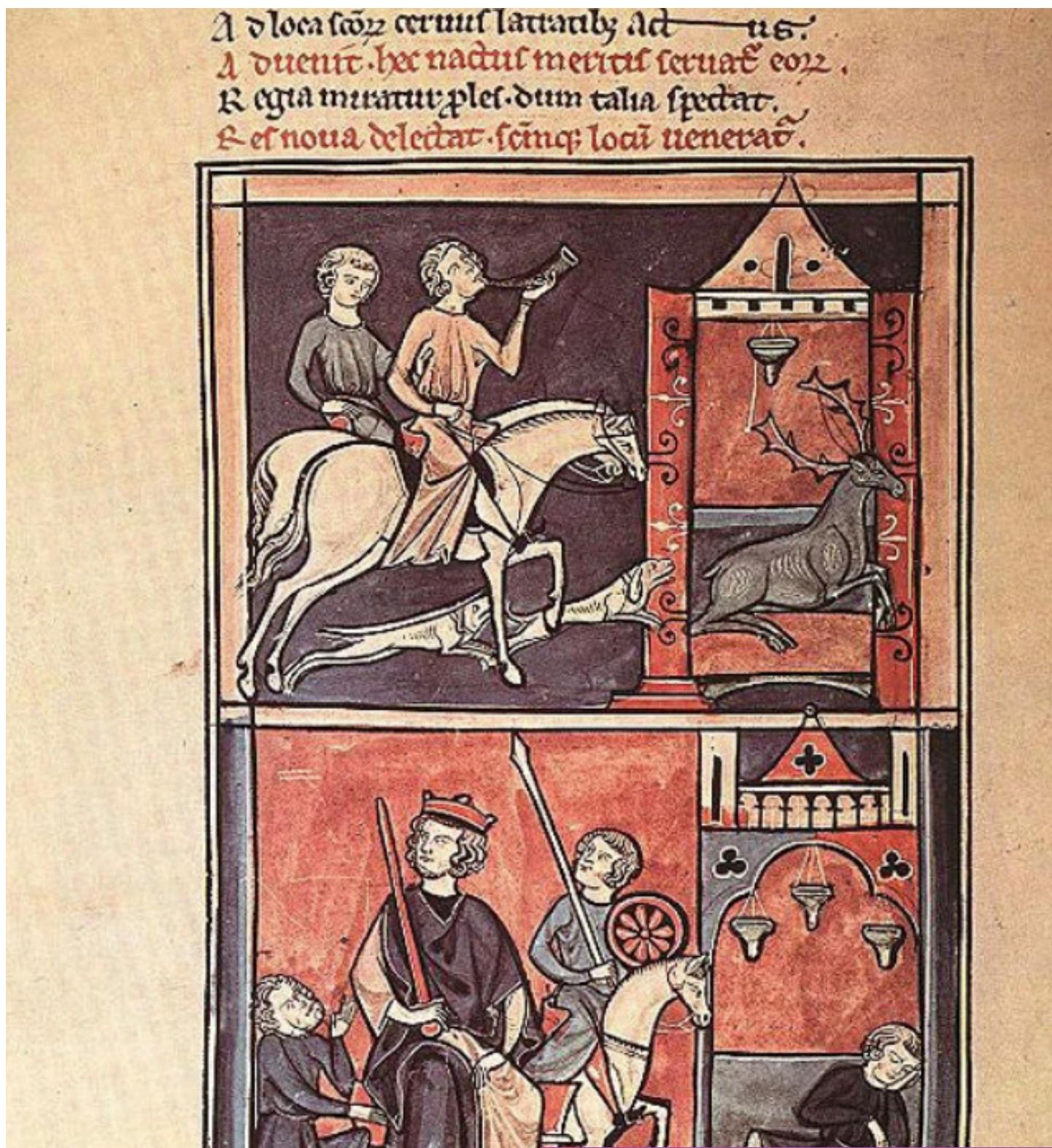
Nazca lines  
From: [Wikipedia: Nazca Lines](#) (Accessed October 23, 2020)

## Pictographs and Hieroglyphics

Egyptian hieroglyphs were used by the Ancient Egyptians and emerged as a part of their preliterate artistic traditions. Hieroglyphs consist of phonetic glyphs and pictographs. Pictographs are symbols that represent concepts with illustrations. When viewing hieroglyphics, you will notice that ideas are visually communicated through drawings.<sup>36</sup>



Egyptian hieroglyphics  
From: [The History of Visual Communication](#)  
(Accessed October 23, 2020)



## The Book and Printing Press

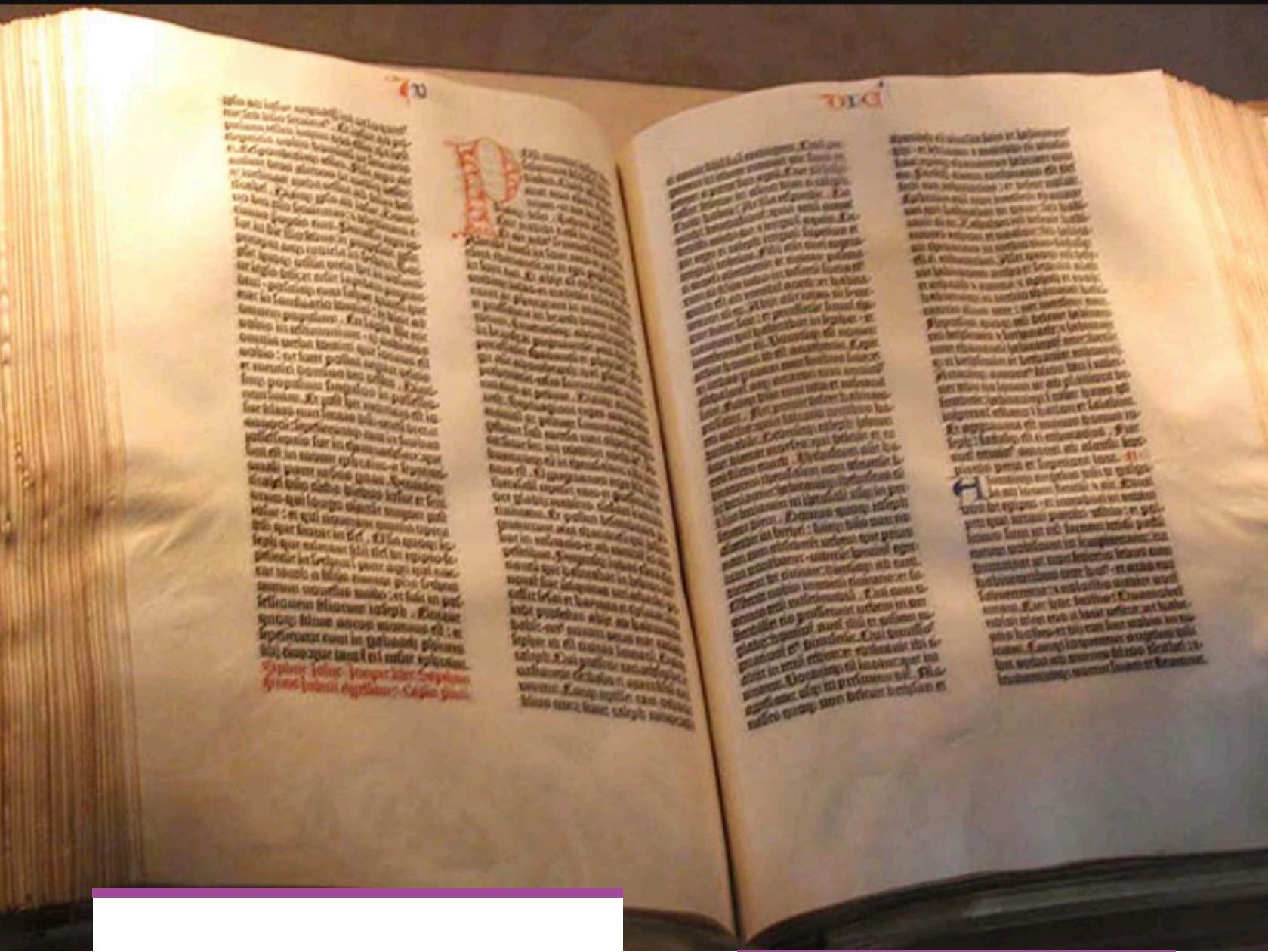
Some of the earliest examples of decorated books are illuminated manuscripts. Illuminated manuscripts are books decorated with embellishments and illustrations. Life expectancy for people between the Middle

Example from an early printing press  
From: [The History of Visual Communication](#) (Accessed October 23, 2020)

Ages and the Renaissance was often very low. Since manuscripts were transcribed by hand, it would often take several generations of scribes to completely transcribe a book.



Examples from an early printing press  
From: [The History of Visual Communication](#)  
(Accessed October 23, 2020)



## Gutenberg and the Printing Press

German inventor Johannes Gutenberg invented the technology of printing with movable type. He created a printing system that used metal type instead of hand-carved wood, which sped up the printing process. By 1455, he created the first available mass-produced version of a two-volume bible. This became known as the Gutenberg Bible. The Gutenberg Bible was so popular that there was a boost in the production of texts in Europe immediately following its publication.

The Gutenberg Bible  
From: [The History of Visual Communication](#)  
(Accessed October 23, 2020)

**"The Gutenberg Bible was so popular that there was a boost in the production of texts in Europe immediately following its publication"**

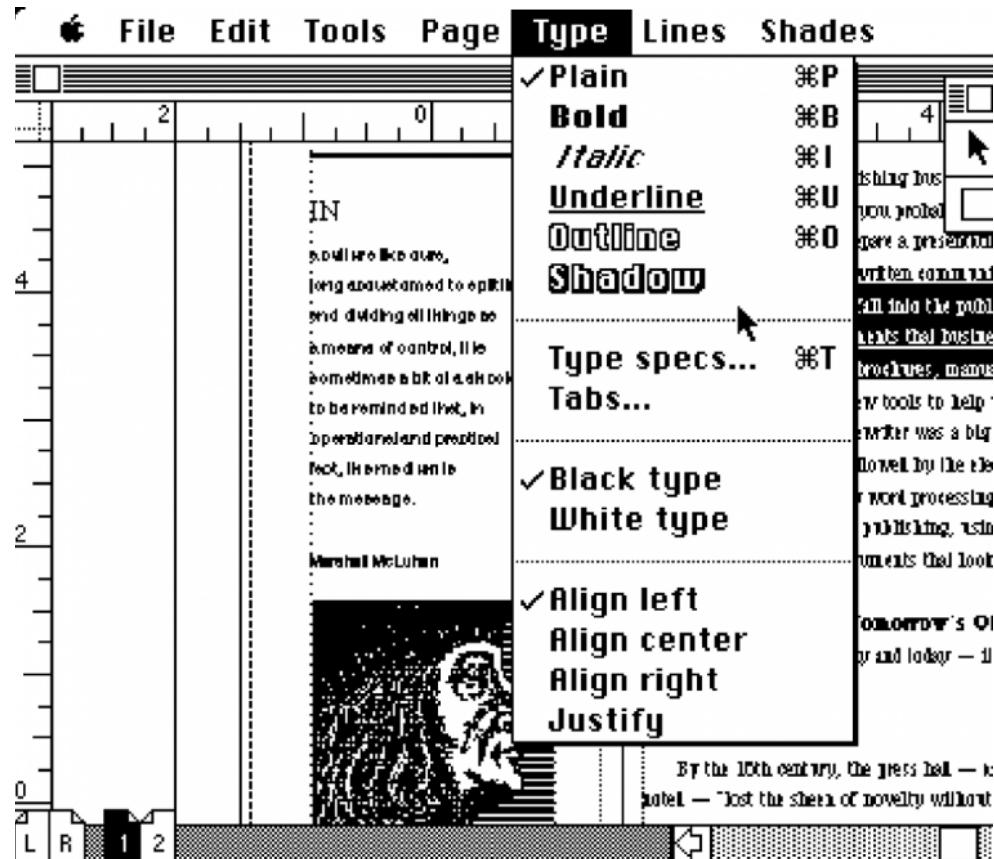
# Computer Technology

The growing rise in popularity of desktop publishing in the 1980s presented an alternative to manual publication methods.

PageMaker software by Aldus became the industry standard because of its more advanced layout and typographic functionality.

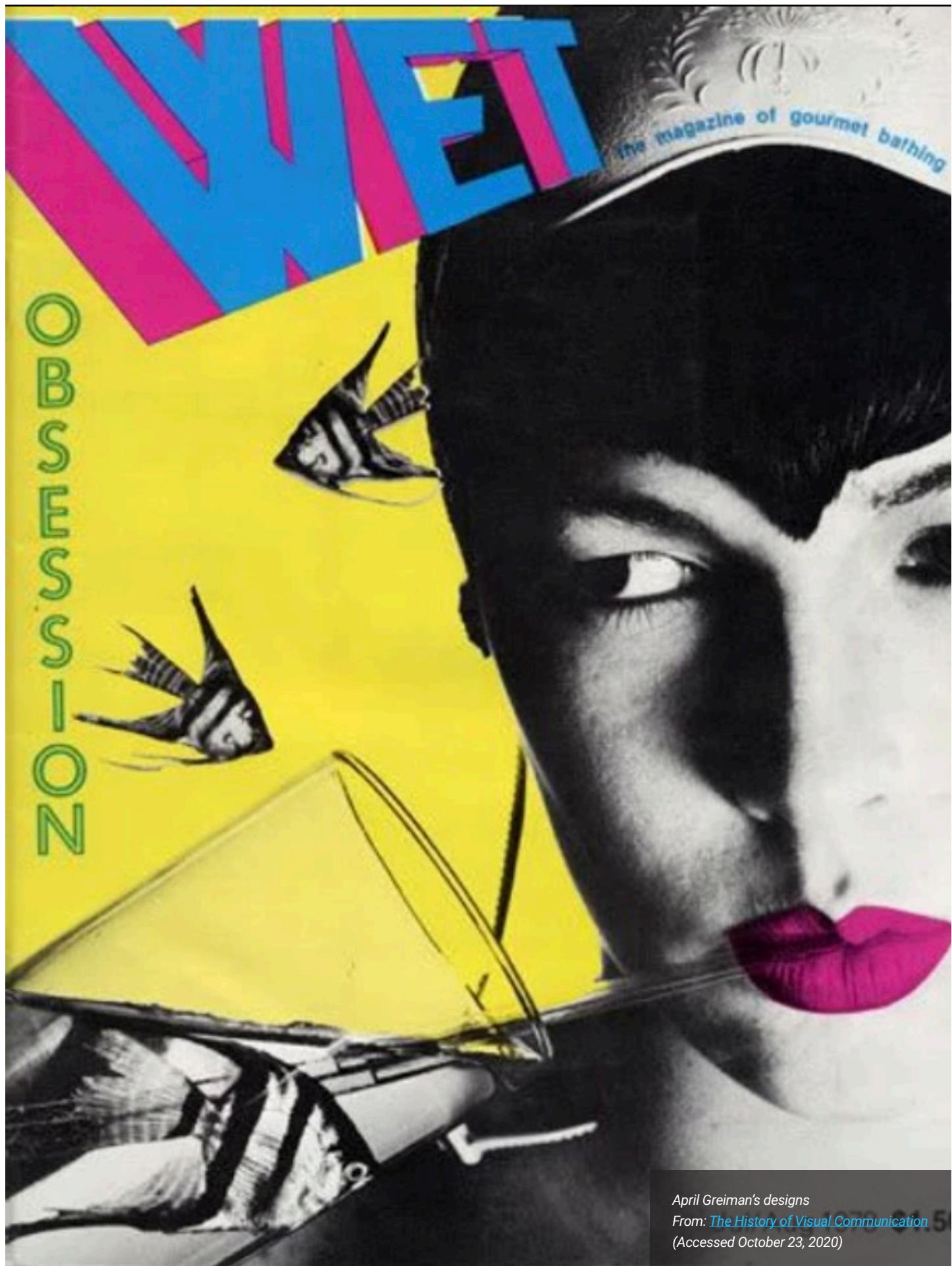
The arrival of new desktop publishing and image manipulation software gave designers the ability to experiment with different layouts, imagery, and typography, and to make changes quickly and inexpensively. Designers ideated and brainstormed more because they could easily create multiple versions of their design and experiment with negative tracking and leading.

April Greiman, who is credited with starting the American New Wave design style in the late 70s and early 80s, is “recognized as one of the first designers to embrace computer technology as a design tool.”<sup>37</sup>

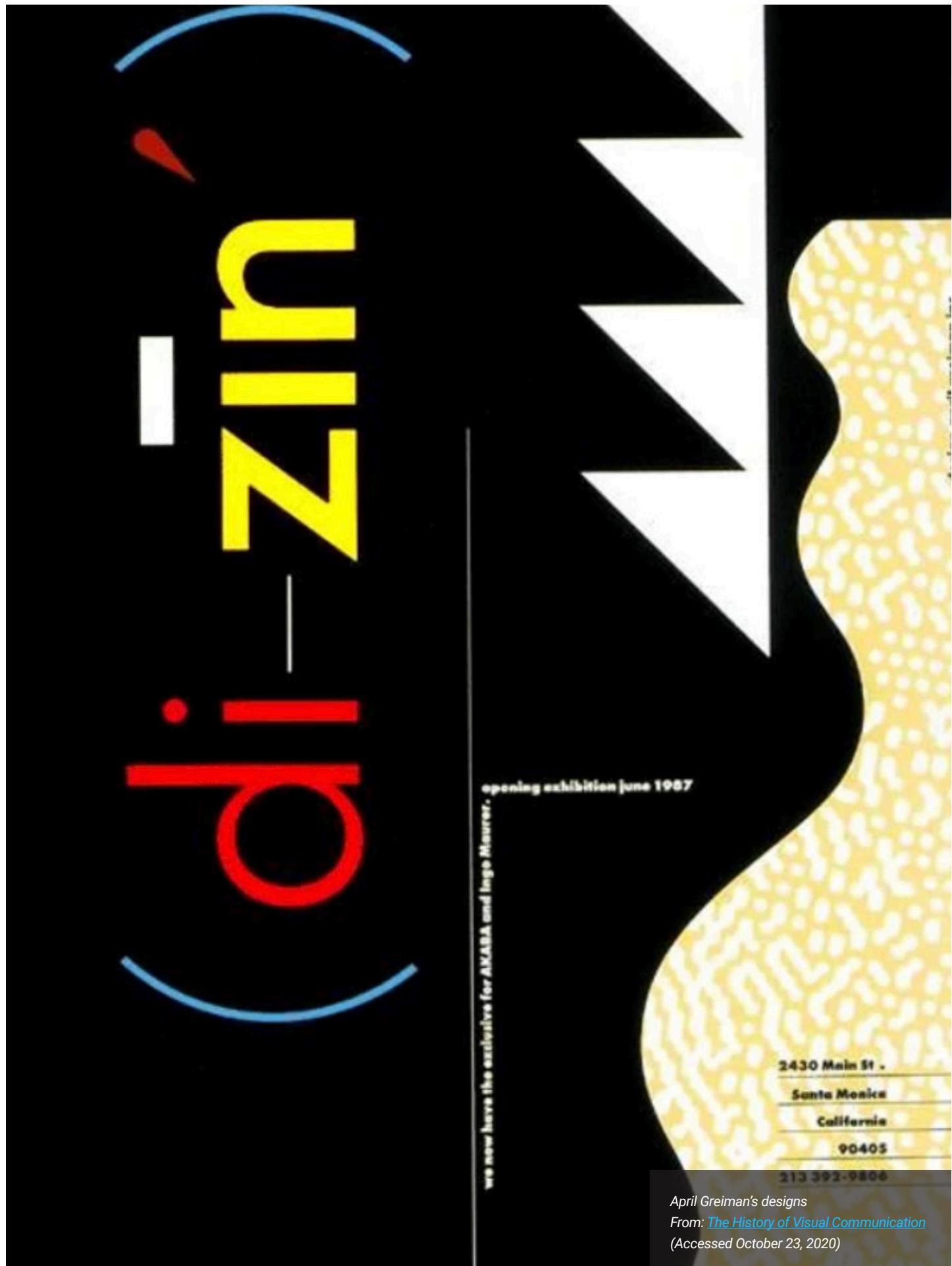


Aldus PageMaker

From: *The Interface Experience*  
(Accessed February 4, 2021)



April Greiman's designs  
From: [The History of Visual Communication](#)  
(Accessed October 23, 2020)



# Storytelling and Visual Persuasion in Design

Visual persuasion is the use of graphics, including photos and illustrations, to amplify a message that is intended to motivate the receiver to act in a certain way.<sup>38</sup> It is a combination of using language, the viewers' relationship to content, and visuals that reinforce the message the elements create as a whole.

Copywriters and designers often use visual storytelling basics in their work that can be seen in advertisements and landing pages. Take a look at the advertisements and landing page below and see if you can identify the following:

**What is the message?**

**How does the visual content of this piece reinforce the intended message?**

**Does the graphic style affect the message?**

**Can you see a link between the visuals and any copy used?**



**UNBREAKABLE.  
LIGHTWEIGHT  
EXPLOSIVENESS.  
THE LEBRON X**





**C**

**Apply Now**

Enter your info, and then download the Lyft app to create your driver profile.

First name \_\_\_\_\_  
Last name \_\_\_\_\_  
Email address \_\_\_\_\_  
City \_\_\_\_\_  
Phone number \_\_\_\_\_  
Promo Code (optional) \_\_\_\_\_

I agree to the [Lyft terms](#).

**BECOME A DRIVER**

Already applied? Check the status of your application [here](#).

**See How Much You Can Make**

How many hours do you want to drive this week?

Hours \_\_\_\_\_ City \_\_\_\_\_ **CALCULATE**

*Lyft landing page  
From: Disruptive Advertising  
(Accessed February 8, 2021)*

# Aristotle's Three Modes of Persuasion

The philosopher Aristotle<sup>39</sup> identified three elements that are required to persuade an audience. He called them logos, pathos, and ethos—also known as the trinity of persuasion. They can be used alone or in conjunction with each other.

*Model of persuasion*  
From: [Pinterest](#) (accessed January 19, 2021)

## ETHOS *Credibility*



## PATHOS *Emotion*



## LOGOS *Logic*



### Ethos

Ethos is appealing to ethics, morals, and character. It is how your credibility affects how the audience hears and receives your message. It is about building trust with the audience. According to Aristotle, this is the first and most important step of persuasion. When designing, make sure you are honest and credible.

### Pathos

Pathos is appealing to emotion. This is how you connect with your audience. For example, if you are giving a presentation that is fact-heavy, try thinking of ways you can connect the facts to the audience and their experience. In your designs, try using images and colors that appeal to your audience's emotions.

### Logos

Logos is the appeal to logic. It means using facts and statistics to help persuade. You may try to include data visualizations to help make your data clearer.

# Designers as Communicators and Storytellers

Whether it is in their designs or when giving presentations, good designers tell stories and clearly communicate their ideas and messages. Below are some techniques to help you communicate your ideas.

## Show, Don't Tell<sup>40</sup>

If you can show your audience, then do not write or tell them about it. Visuals are more impactful and are easier for the audience to connect to. If you are working on a design, it is better to show it than to describe it.

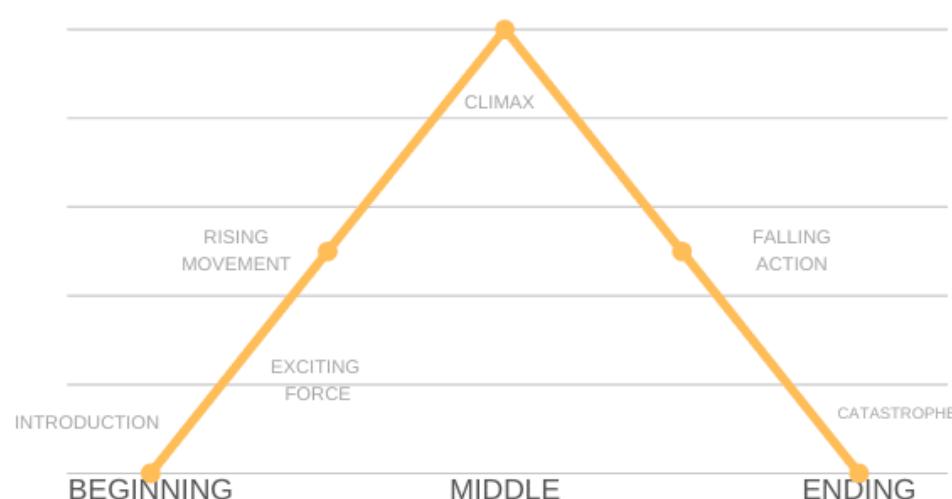
## First Impressions are crucial

People have short attention spans. In addition to making a good first impression, you need to do it quickly or risk your audience moving on. Try to use impactful visuals or quotes that help frame your message in the beginning.

## Add Movement to Your Stories

People are visual. Anytime you can add movement, whether it is through a GIF or a product demo, people will find your presentation more enjoyable. While adding movement to stories is nice for the audience, be careful not to add so much movement that your audience is overwhelmed.

## FREYTAG'S PYRAMID PLOT DIAGRAM



The Write Practice

Service design sample from Nielsen Norman Group From: [Nielsen Norman Group](#) (Accessed October 23, 2020)

## **Adding Conflict**

Conflict is what drives your story. Why is your product or design relevant? This is why you tell the audience about the problem you are trying to solve and why your story is important.

## **Making It Personal**

By making your story personal, you are appealing to your audience's emotion. When you connect with the audience, they become more invested in you and what you are saying. When this happens, they are more likely to pay attention to what you are saying.

## **Eye-Catching Visuals**

Any visuals used during presentations, talks, and speeches should be eye-catching and visually pleasing. Bad visuals can become distracting for the audience.

## **The Hitchcock Rule<sup>42</sup>**

The Hitchcock Rule states that the size of any object in your frame should be proportional to its importance in the story at that moment. Only capture images and facts that you really need as a part of your story. For example, do not put a large close-up in your presentation if it is not important to your story or design.

## **Teach Something**

If the audience learns something new while you are telling your story, then it is more likely that they will pay attention and remember.

## **Pausing for Effect**

Pausing for effect adds drama and suspense. Doing this during a presentation or speech will make your audience more alert and give anything you said immediately before a chance to stick out and sink in.



## Key Takeaways

- 1 People first began communicating visually over 40,000 years ago.
- 2 Visual persuasion is the use of graphics, including photos and illustrations, to amplify a message that is intended to motivate the receiver to act in a certain way.
- 3 The philosopher Aristotle identified three components that are needed to persuade an audience. He called them logos, pathos, and ethos, also known as the trinity of persuasion.
- 4 Whether it is in their designs or when giving presentations, good designers tell stories and clearly communicate their ideas and messages. There are many techniques you can use to employ successful storytelling in your designs.



## Additional Resources

- 1 [W.E.B. Du Bois' Data Portraits: Visualizing Black America](#)
- 2 [Design Is Storytelling](#)
- 3 [Beyond Usability: Designing with Persuasive Patterns](#)
- 4 [10 Visual Storytelling Rules Every Digital Marketer Needs to Know](#)
- 5 [7 Storytelling Techniques Used by the Most Inspiring TED Presenters](#)
- 6 [5 Basic Principles of Visual Storytelling: How to Tell Stories Without Words](#)



## Chapter 6: Ethics and Research

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Designers have an immense amount of power beyond making something that is pretty to look at. They design ballots that result in public policy and laws being passed. They design social media networks that drive worldwide connection and discourse. The examples go on and on.

Unlike other industries, however, design is essentially unregulated. While architects, doctors, and accountants can all be sued, arrested, or otherwise held accountable for

*Ethics In UserExperience Design*  
From: [UsabilityGeek](#) (Accessed March 16, 2021)

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negligence in various forms, designers do not have nearly the same constraints, which can be good on one hand and dangerous on the other.

So whose responsibility is it to ensure that designers work and act ethically on behalf of the users who buy and use their products and services? The short answer is: yours, the designer!

# Responsibilities of Ethical Designers

The topic of ethics is as old as time. For centuries, people have entered into debates about what's right and wrong. Moral and immoral. Good and bad.

Ethics in design can be a bit trickier to nail down based on its scale and lack of regulation. Much of a designers' work is for internet-based tools that can scale across the globe. Even with this level of reach and power, the majority of the internet is unregulated. There are no rule books and few guidelines to follow. This makes your work both challenging, but also leaves room for innovation, change, and opportunity.

When it comes to making ethical decisions as a designer, the responsibility often falls on individuals' and organizations' shoulders. Your shoulders.

Though few official codes or rule books have been written, many influential designers have come forward as leaders to hold each other accountable. Mike Monteiro, for example, is the founder of Mule, a San Francisco-based design studio. An outspoken critic of unethical behavior in design, Monteiro's company abides by a 10-point code of ethics.

"Design is a discipline of action," writes Monteiro. "You are responsible for what you put into the world. It has your name on it. And while it is certainly impossible to predict how any of your work may be used, it shouldn't be a surprise when work that is meant to hurt someone fulfills its mission."<sup>43</sup>

Making money, gaining users, competing with other companies, and providing wanted and needed products and services are not unethical.

These things drive our economy, put food on our tables, and clothes on our backs. Where the lines can blur, however, is in the intent, impact, and effects design can have on users.

Is it ethical to use psychological manipulation to get users to come back to Facebook and Instagram dozens of times a day? Is it ethical to default a pricing model to the highest option? Is it ethical to make it an arduous process to unsubscribe or delete an account? The list of questions to ask yourself as a designer will no doubt grow longer the more you dive into them.

Your due diligence as a design professional is key to ethical design. In other industries, professionals can be held liable for their actions or inactions. Architects are responsible for the structural integrity of their projects. Doctors are responsible for correctly diagnosing and treating patients. Designers, though, have not had nearly the same level of accountability despite influencing mental health, elections, public policy, and, perhaps most notably, how and why people spend money.

## Good to Know

The unfortunate truth is that many companies willingly create harmful products or stoop to unethical levels to get customers to buy their products. A misleading or otherwise deceptive UI/UX decision that tries to exploit human psychology to get users to do things they do not really want to do are known as **dark patterns**.<sup>44</sup> They include tactics such as making it hard to know the true cost of a transaction, tricking users into giving more information than they normally would, or making it difficult to complete a task, such as deleting an account.

## Ethical Issues in Design

The internet has created the world's largest, most-connected ecosystem that even just a few decades ago seemed like science fiction. Today's world is driven by technology, and design plays a vital role.

While you may not have the luxury to hand-pick clients or may not be philosophically aligned with your company or organization, you may, at times, be forced to make decisions that are guided by your moral compass. This means doing what is right even when it is unpopular, speaking up when something feels off, and always serving as the ethical voice of the user. Additionally, it is important to understand that as humans, we all have implicit biases. We have lived experiences, social influences, fundamental values, and more that can affect our decisions when designing. You need to be aware of your own.

When a company is set to launch, there is little telling what the future holds. In fact, about 90% of startups fail.<sup>45</sup> With so much competition and uncertainty, many companies are tempted to resort to unethical practices to get their cut, stay afloat, and stay ahead.

A List Apart is a popular website devoted to exploring the meaning, development, and design of web content that includes a particular focus on web standards and best practices. Their eight areas of focus on ethics in design will guide us in examining some of the ways companies and organizations can blur ethical lines—or in the worst cases, completely disregard them.<sup>46</sup>

*Key elements of ethical design*

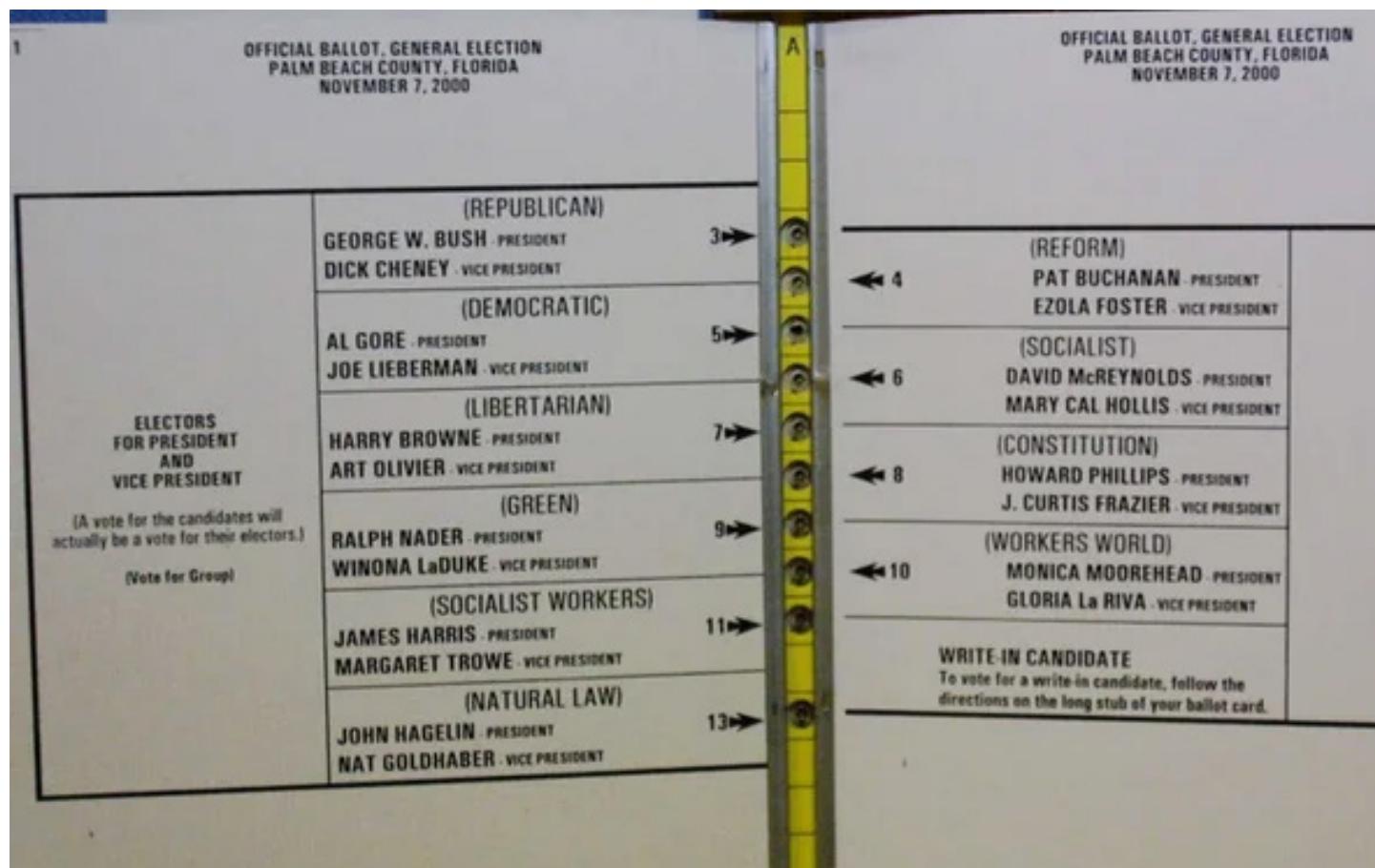
Adapted from [A List Apart](#) (Accessed October 23, 2020)

### Usability

Good design should be functional and easy to use. That means that users should be able to do what they want to do. This doesn't always happen for many reasons, but one of the foremost reasons is that business goals become more important than user goals.

Take email subscriptions as an example. If you are like most people with an email address, your inbox can become inundated. If you want to unsubscribe to a message and navigate to the bottom of the email only to find that the link to unsubscribe is not there, or if it is, it is difficult to find, you may have to contact customer support to be removed from the mailing list.

Poor design can have larger repercussions. Many ballots that elect public officials and subsequently influence public policy and lawmaking are confusing, difficult to read, and lead to errors or, in the worst cases, uncounted votes.



In the presidential election in 2000, a recount was required in Florida to determine the winner between Al Gore and George Bush, who would go on to become the 43rd President of the United States. With the margin of victory sitting at less than 0.5 percent, machine recounts were required. The case would eventually reach the US Supreme Court. One source relays the following:

As court challenges were issued over the legality of hand recounts in select counties, news stories were filled with the arcane vocabulary of the election judge. County officials tried to discern voter intent through a cloud of “hanging chads” (incompletely punched paper ballots) and “pregnant chads” (dimpled paper ballots, but not pierced, during the voting process), as well as “overvotes” (ballots that recorded multiple votes for the same office) and “undervotes” (ballots that recorded no vote for a given office). Also at issue

was the so-called butterfly ballot design used in Palm Beach County, which confused some Gore voters—prompting them to inadvertently cast their votes for third-party candidate Pat Buchanan, who received some 3,400 (some 20 percent of his total votes statewide).<sup>47</sup>

## Accessibility

As a designer, you are very rarely the target audience of what you are building. That doesn't mean that you are free from biases, assumptions, and your own opinions. Through due diligence, though, your aim should always be to ensure that your designs benefit as many needs and capabilities as possible. This also means being aware of not only who's included, but who's excluded.

In June 2020, the authors of the book, *The Power of Experiments: Decision-Making in a Data Driven World* wrote an article in *Fast Company* about discrimination on Airbnb. They set out to determine if black guests faced more difficulty on the platform than their white counterparts.

The experiment sent rental inquiries to 6,400 Airbnb hosts in the US. Half were from (fictitious) guests with names that are more common among white people, as determined by birth records (such as Brett and Todd), while the rest were from guests with names that are more common among black people (specifically, names that were statistically more common among African Americans, such as Darnell and Jamal).

The results were striking. Inquiries from guests with distinctively African American sounding names were 16% less likely to get a yes from the hosts than those with white-sounding names. We found discrimination across a range of neighborhoods and listing types, from inexpensive to costly, from separate apartments to guest rooms, and from small-time landlords to larger ones who may have been breaking the law by violating the Fair Housing Act.

While Airbnb made some strides, the authors wrote that "new research has found evidence of continued discrimination on the platform."<sup>48</sup>

Accessible design ensures that every user's needs are addressed and allows equal access and opportunity to the most people possible.

This is not only good for business, as it creates a larger customer pool but in many cases, it is the law. In Canada, for example, a corporation without an accessible website could face daily fines of \$100,000 with company directors also being fined to the tune of \$50,000 per day.<sup>49</sup>

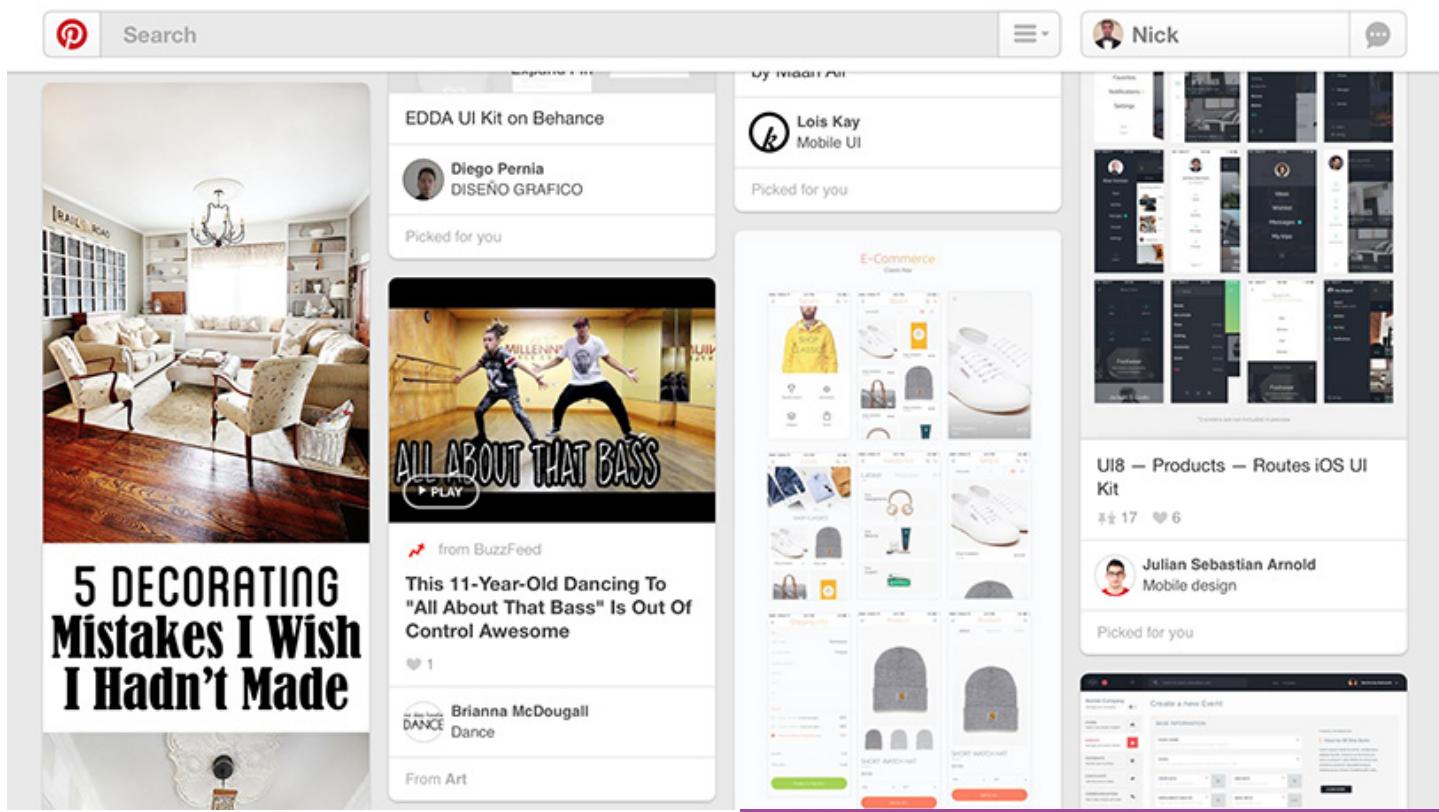
## Privacy

The amount of data that users provide to companies and organizations is staggering. Between uploading photos and videos to social media sites, filling out online forms and surveys, and making online purchases, user habits have created a whole new industry, known as mass surveillance, a market expected to reach \$39 billion in 2020.<sup>50</sup>

By using what's known as behavioral data, companies can predict a potential customer's wants and needs based on their actions. They can then sell that data to other companies who then market their products and services to the customer.

The dilemma arises when data that should have remained private did not, either through breaches or through unethical business practices. Shoshana Zuboff, author of *The Age of Surveillance Capitalism*, said in an interview with *The Harvard Gazette* that "breathing machines purchased by people with sleep apnea are secretly sending usage data to health insurers, where the information can be used to justify reduced insurance payments."<sup>51</sup>

Perhaps the most public breach of privacy involved Facebook and Cambridge Analytica, the British political consulting firm that combined misappropriation of digital assets, data mining, data brokerage, and data analysis with strategic communication during electoral processes.<sup>52</sup>



## User Involvement

Users must have agency over what they do when interacting with a design. With so many different stimuli vying for your attention at every waking moment, internet companies have turned to psychology to get people to use their products and services—and keep coming back again and again.

One such motivator is called intermittent variable rewards. Think of a slot machine at a casino. You put in your coin, pull the lever, and the machine whistles and dings as you eagerly wait for the result. Sometimes you win, but most of the time you do not. When you do win, your brain gets a flood of dopamine and you feel great. The next pull of the lever, you lose, and what happens? You crave the positive feeling you had before, so you keep going back in hopes of winning again.

Digital companies know this and constantly feed users' brains with intermittent variable rewards. They know that people are almost always on their phones. While no one can seem to agree on the exact figures, the numbers

Pinterest screenshot

From: [UX Planet](#) (Accessed October 23, 2020) Persuasion

range from 96 times a day<sup>53</sup> to 2,617 times.<sup>54</sup> Each and every time is an opportunity to earn more business, sell one more ad, or get you to stay to consume one more piece of content.

Instagram, Pinterest, Dribbble, Reddit, Tinder, and more are masterful at providing a bottomless pit of content. Don't see what you want after scrolling for hours? Refresh the page and you get your intermittent variable reward of new content (and new ads competing for your attention).

Another way that companies slyly get you to stay is through automation without user consent. YouTube, the foremost online video streaming service, is home to billions of videos. The company makes money mostly through advertisements. So the more people watch, the more advertisements they can sell, without a user needing to agree to consciously consume the content.

## Persuasion

Persuasion is an example of where the line between ethical and unethical can become dangerously blurred. While part of sales and marketing is to convince customers to purchase a product or service over others, how designers go about achieving this goal is where the lines can become unclear. Honesty, transparency, and clarity offer customers the information they need to make informed decisions. However, many companies go to great lengths with debatable tactics.

One gray area centers around creating a false sense of immediacy and a need to “act fast” while also ensuring that you are part of the popular majority. Because if you’re not in, you’re out! **FOMO or fear of missing out** has become a recent psychological phenomenon that not only has people constantly checking their phones, but serves to push people toward sometimes impulsive decisions.<sup>55</sup>

Marketers have been using this tactic forever, but digital companies have taken it a step further. Countdown timers, falsely advertising limited supplies, and content that shames users if they do not sign up are just a few examples. The list goes on and on.

## Focus

Focus involves being intentional with what a customer is seeing and experiencing while interacting with a design. With so many stimuli, users often do not read everything on a website. Instead, they skim and scan for content that interests them and skip what doesn’t. This is an opportunity for digital companies to slyly sneak in ads and other types of influential content that looks like everything else on the page. An example is how many companies get users to agree to Terms and Conditions. These lengthy documents

are rarely read in their entirety. Companies know this and will offer up a simple, binary decision: options to agree or disagree with a less prominent link to access the documents.

Online newspapers and magazines are particularly guilty of this. Often, these companies will sprinkle ads that look like content blocks, known as clickbait, which is an example of purposeful confusion and misdirection. Unsuspecting users will think they are clicking on a news story, only to be brought to another site altogether.

## Sustainability

Sustainability is the potential for something to exist continuously. You cannot go very long between news cycles without hearing stories about climate change, depletion of natural resources, and the mass consumption of fossil fuels to create everything from bottles to gasoline.

When it comes to physical product design, companies and organizations make decisions every day to weigh the costs and benefits of sustainability. It is often cheaper to use certain materials like plastics and fabrics that end up in landfills and the ocean, but more costly to use renewable resources or more expensive material that will last longer. But that also means that customers will not come back as often to spend more money. It poses both a business and an ethical conundrum, to be sure.

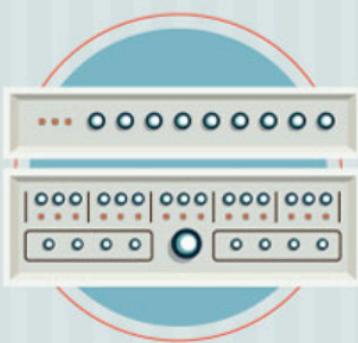
When it comes to digital design, sustainability is still a consideration. Take Amazon, for example. Their business model is based on getting products into the hands of customers as quickly as possible. The digital system they have created is resource-intensive to run and maintain. The infrastructure of the business itself is a source

## THE INTERNET CONSUMES A HUGE AMOUNT OF GREENHOUSE GAS (GHG) EMITTING ENERGY WHICH CAN BE DIVIDED INTO 2 PIECES:

MANUFACTURING AND SHIPPING



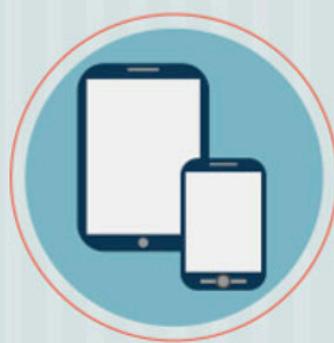
Technology companies must manufacture and ship the internet's hardware including:



Servers



Computers



Smartphones

of ethical debate. To get those products into your hands with Amazon's two-day shipping promise, designers and customers both must consider the shipping, packaging, and human effort involved in the process.

And then there's the carbon footprint of the internet itself. With 2.5 billion people connected online worldwide, the internet's carbon footprint is estimated to exceed that of air travel.<sup>56</sup>

Greenhouse gas emissions produced by the internet  
From: [Made by Custom Made](#) (Accessed October 23, 2020)

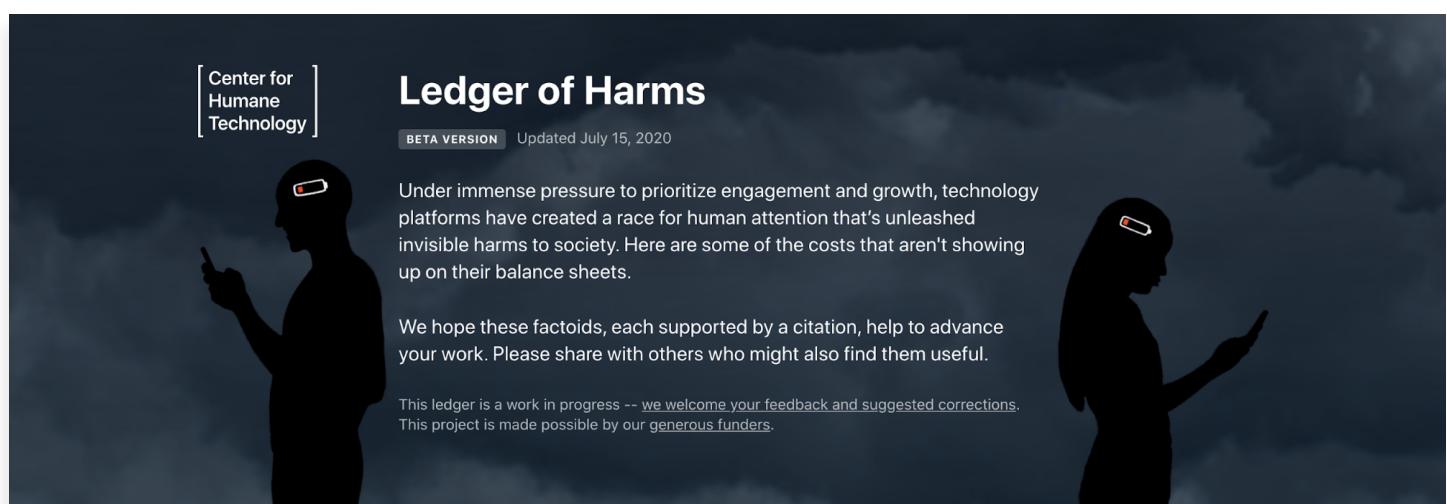
## Society

Perhaps the most important ethical impacts of digital design are tied to the societal effects of the technology that virtually runs our lives—both literally and figuratively.

As designers, your priority is to solve problems for users. At times, the problems you are trying to solve have unforeseen, but major consequences. Social media is built on the foundation of connecting people. On the surface, this is a good thing, right? As platforms like Facebook, Instagram, Twitter, and more have grown to billions of users, major ethical issues have arisen, from the unintended negative impacts on mental health, especially for young people, all the way to foreign governments interfering with presidential elections.

These negative impacts have reached such a magnitude that organizations have spun up to combat them. Former Google employee, Tristan Harris, launched the Center for Humane Technology to help tech companies and customers alike become better equipped to understand the negative effects of these products, including through a resource named the Ledger of Harms.

While many of these examples paint a bleak picture, there are far more good and honest designers out there. To be one, it is important to do the due diligence necessary through research and moral decision-making to ensure the products and services you create are ethical.

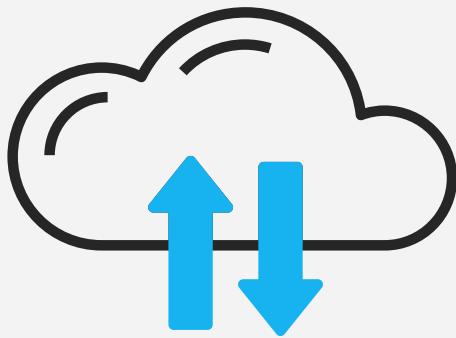


## Making Sense of the World

Misinformation, conspiracy theories, and fake news

The ethical debate associated with social media platforms came to a head when Facebook CEO Mark Zuckerberg asserted that he believes “strongly that Facebook shouldn’t be the arbiter of truth of everything that people say online. Private companies probably shouldn’t be, especially these platform companies, shouldn’t be in the position of doing that.”<sup>57</sup>

Screenshot from *Ledger of Harms*  
From: [Ledger of Harms](#) (Accessed October 23, 2020)



## The Importance of Research

When going on a road trip, you would not get in the car and drive aimlessly. You would first do some strategizing. You would consider what to pack. You would plan the best route. You would gas up your vehicle. And even with the best plan in place, you still may have to adjust as necessary.

Design is much the same. As discussed in Chapter 3, the human-centered design process is the roadmap designers use to give themselves the best shot at arriving at the best possible solution. The foundation of this process is research.

Design professionals have a responsibility to do their due diligence to ensure that the products, services, and deliverables they create achieve the following:

**Solve the right problem for the right people.** By asking the right questions and doing the necessary discovery work on the front end, you gain the insights you need to ensure your design iterations are aimed in the right direction.

**Data eliminates guesswork.** Research based on competitive analyses, interviews, and statistics adds credibility and validity to designs far more than those without it. While design will always be inherently subjective, data-driven design holds more weight based on facts, figures, and data than opinions and conjecture alone.

**Design is more science than art.** Though you want your designs to be aesthetically pleasing, at times aesthetics need to take a backseat to functionality. Research provides the guide to creating tools and resources that perform and function well.



VX Design

By: [Adam Trybula](#) (Accessed March 13, 2021)

## Principles of Ethical Research

As we have discussed throughout this chapter, ethical design takes effort, thought, and moral decision-making. Research is no different.

Confirmation bias, for example, is the tendency to search for, interpret, favor, and recall information in a way that confirms or supports one's prior beliefs or values.<sup>58</sup> The evidence, in other words, is strategically skewed toward the desired outcome. This is an example of unethical research. Instead, designers should aim to conduct and analyze research that:

**Eliminates bias.** Humans are biased almost without fail. Instead of fighting this fact, however, you must be aware of your own biases and make design decisions based on available data and due diligence to ensure the right problems are being solved for the right people in the way those people need.

**Is transparent.** If done well, facts and data are taken at face value and interpreted truthfully and fairly. If the evidence points away from initial assumptions, an ethical researcher must change those assumptions and work toward a solution based on facts and data. The research process must also be clearly explained to ensure proper oversight and quality assurance.

**Follows clear protocols.** There are easy ways to ensure that the data you are collecting is sound. For example, when conducting interviews, never do so alone. If you must, make sure the interview is recorded and shared with a teammate or another stakeholder to ensure that multiple people can help analyze the data.

Is inclusive and comprehensive. Since you are generally not the user of the product you are designing, it is vital to include subjects and resources that fit the problem you are trying to solve and provide a wide variety of input and perspectives. Similar to eliminating biases, being proven wrong is actually a good thing in research. It means that you have done your due diligence and have arrived at a complete, evidence-based conclusion.



## Key Takeaways

- 1 Ethics in Design. High-level definition of ethical design: “concerning moral behavior and responsible choices in the practice of design.”
- 2 Responsibilities of Ethical Designers. Ethics in design can be a bit trickier to nail down based on its scale and lack of regulation. When it comes to making ethical decisions as a designer, the responsibility often falls on individuals’ and organizations’ shoulders.
- 3 Ethical Issues in Design. A list of some of the ways that companies and organizations can blur ethical lines, or in the worst cases, completely disregard them: usability, accessibility, privacy, user involvement, persuasion, focus, sustainability, and society.
- 4 Importance of Research. Design professionals have a responsibility to do their due diligence to ensure that the products, services, and deliverables they create solve the right problem for the right people. Data eliminates guesswork. Design is more science than art.



## Additional Resources

- 1 [Ethics for designers](#)
- 2 [What is Inclusive Design](#)
- 3 [How Design Designs Us](#)
- 4 [Dark patterns in UX: how designers should be responsible for their actions](#)

# Bibliography

- 1 Esposito, Emily. 2018. "How to explain product design to anyone."  
<https://www.invisionapp.com/inside-design/product-design/>
- 2 Usability.gov. n.d. "Interaction Design Basics."  
<https://www.usability.gov/what-and-why/interaction-design.html>
- 3 Gibbons, Sarah. 2017. "Service Design 101."  
<https://www.nngroup.com/articles/service-design-101/>
- 4 Cartwright, Mark. 2017. "Paper in Ancient China."  
<https://www.ancient.eu/article/1120/paper-in-ancient-china/>
- 5 Tejada, Ross Albert. 2017. "Movable Type—the very first printer and a brief look at its history."  
<https://medium.com/@RossAlTejada/movable-type-the-very-first-printer-and-a-brief-look-at-its-history-4228bde57e9a>
- 6 World Digital Library. "Book of Hours." Last modified October 17, 2017.  
<https://www.wdl.org/en/item/354/>
- 7 Graphic Design History. n.d. "How the Industrial Revolution Spawned the Arts & Crafts Movement."  
[http://www.designhistory.org/Arts\\_Crafts\\_pages/IndustrialRevolution.html](http://www.designhistory.org/Arts_Crafts_pages/IndustrialRevolution.html)
- 8 Forrest, Jason. 2018. "W. E. B. Du Bois' staggering Data Visualizations are as powerful today as they were in 1900 (Part 1)."   
<https://medium.com/nightingale/w-e-b-du-bois-staggering-data-visualizations-are-as-powerful-today-as-they-were-in-1900-64752c472ae4>
- 9 Pantone. n.d. "About Pantone."  
<https://www.pantone.com/about/about-pantone>
- 10 Design Is History. n.d. "Peter Behrens."  
<http://www.designishistory.com/1850/peter-behrens/>

- 11 Rudnick, Allison. 2017. "Humor and Horror: Printed Propaganda during World War I." <https://www.metmuseum.org/blogs/now-at-the-met/2017/printed-propaganda-world-war-i>
- 12 Design is History. n.d. "Swiss Design." <http://www.designishistory.com/home/swiss/>
- 13 Meggs, Philip B. n.d. "Graphic design, 1945–75." <https://www.britannica.com/art/graphic-design/Graphic-design-1945-75>
- 14 Vanhemert, Kyle. 2015. "Paul Rand, the Visionary Who Showed Us That Design Matters." <https://www.wired.com/2015/04/paul-rand-visionary-showed-us-design-matters/>
- 15 Meggs, Philip B. n.d. "Graphic design, 1945–75." <https://www.britannica.com/art/graphic-design/Graphic-design-1945-75>
- 16 Vieira, Tania. 2020. "A brief history of UX design and its evolution." <https://thenextweb.com/syndication/2020/01/26/a-brief-history-of-ux-design-and-its-evolution/>
- 17 The Ergonomics Unit: National Technical University of Athens. 2006. "Ergonomics in Ancient Greece." <http://ergou.simor.ntua.gr/research/ancientGreece/AncientGreece.htm>
- 18 Vieira, Tania. 2020. "A brief history of UX design and its evolution." <https://thenextweb.com/syndication/2020/01/26/a-brief-history-of-ux-design-and-its-evolution/>
- 19 Shostack, G. Lynn. 1984. "Designing Services That Deliver." <https://hbr.org/1984/01/designing-services-that-deliver#:~:text=Shostack%20is%20senior%20vice%20president,Group%20at%20Bankers%20Trust%20Company.&text=Author%20of%20a%20marketing%20management,and%20the%20Service%20Industries%20Journal>
- 20 W3. "World Wide Web." <https://www.w3.org/History/19921103-hypertext/hypertext/WWW/TheProject.html>

- 21 Work, Sean. 2019. "The History of the Google Homepage (1998–2019) & What It Means For Your Business Today."  
<https://judinc.com/blog/the-history-of-the-google-home-page-1998-2019/>
- 22 Ellison, Kaitlyn. 2013. "5 famous copyright infringement cases (and what you can learn)." <https://99designs.com/blog/tips/5-famous-copyright-infringement-cases/>
- 23 Ferrill, Beth, Lauren Dreyer, Erik Dreyer, and John Sanchez. 2015. "[Swipe to Patent: Design Patents in the Age of User Interfaces.](#)"
- 24 Wikipedia. n.d. "Creative Commons license."  
[https://en.wikipedia.org/wiki/Creative\\_Commons\\_license](https://en.wikipedia.org/wiki/Creative_Commons_license)
- 25 Interaction Design Foundation. n.d. "User Centered Design."  
<https://www.interaction-design.org/literature/topics/user-centered-design>
- 26 Usability.gov. n.d. "User-Centered Design Basics."  
<https://www.usability.gov/what-and-why/user-centered-design.html>
- 27 Creative Bloq. 2005. "The history of Photoshop."  
<https://www.creativebloq.com/adobe/history-photoshop-12052724>
- 28 Britannica. n.d. "Adobe Photoshop."  
<https://www.britannica.com/technology/Adobe-Photoshop>
- 29 Adobe. n.d. "Adobe fast facts."  
<https://www.adobe.com/about-adobe/fast-facts.html>
- 30 Sketch. n.d. "About Sketch."  
<https://www.sketch.com/about-us/>
- 31 Subtraction.com. 2015. "Interview with Daniel Hooper, Creator of Principle."  
<https://www.subtraction.com/2015/08/27/daniel-hooper-of-principle/>
- 32 Study.com. 2016. "What Is Visual Communication? - Definition, History, Theory & Examples."  
<https://study.com/academy/lesson/what-is-visual-communication-definition-history-theory-examples.html>

33 History of Visual Communication. n.d. "The History of Visual Communication." <https://www.historyofvisualcommunication.com/>

34 History of Visual Communication. n.d. "The History of Visual Communication." <https://www.historyofvisualcommunication.com/>

35 History of Visual Communication. n.d. "The History of Visual Communication." <https://www.historyofvisualcommunication.com/>

36 History of Visual Communication. n.d. "The History of Visual Communication." <https://www.historyofvisualcommunication.com/>

37 History of Visual Communication. n.d. "The History of Visual Communication." <https://www.historyofvisualcommunication.com/10-the-computer>

38 Duckworth, Nigel. 2018. "What is 'Visual Persuasion?'" <https://medium.com/visual-persuasion/what-is-visual-persuasion-2923f264bcfe>

39 Geddes, John. 2016. "The persuasion triad – Aristotle Still Teaches." <https://www.interaction-design.org/literature/article/the-persuasion-triad-aristotle-still-teaches>

40 TV Tropes. n.d. "Show, Don't Tell." <https://tvtropes.org/pmwiki/pmwiki.php/Main>ShowDontTell>

41 Bunting, Joe. n.d. "Freitag's Pyramid: Definition, Examples, and How to Use this Dramatic Structure in Your Writing." <https://thewritepractice.com/freytags-pyramid/>

42 Hardy, Rob. 2015. "What Is 'Hitchcock's Rule' & How Can It Help You Tell Better Visual Stories?" <https://nofilmschool.com/2015/11/hitchcock-rule-help-you-tell-better-visual-stories>

43 Monteiro, Mike. 2017. "A Designer's Code of Ethics." <https://muledesign.com/2017/07/a-designers-code-of-ethics>

44 Dark Patterns. n.d. "Types of Dark Pattern." <https://www.darkpatterns.org/types-of-dark-pattern>

45 Krommenhoek, Bram. 2018. "Why 90% of Startups Fail, and What to Do About It." <https://medium.com/swlh/why-90-of-startups-fail-and-what-to-do-about-it-b0af17b65059>

46 Overkamp, Lennart. 2019. "Daily Ethical Design." <https://alistapart.com/article/daily-ethical-design/>

47 Britannica. n.d. "Bush v. Gore." <https://www.britannica.com/event/Bush-v-Gore>

48 Luca, Michael and Max H. Bazerman. 2020. "What data experiments tell us about racial discrimination on Airbnb." <https://www.fastcompany.com/90460723/airbnbwhileblack-the-inside-story-of-airbnbs-racism-problem>

49 Digital Design Standards. n.d. "The Importance of Accessible Websites." <http://digitaldesignstandards.com/standard/accessibility/importance-accessible-websites/>

50 Valentino-DeVries, Jennifer, Julia Angwin, and Steve Stecklow. 2011. "Document Trove Exposes Surveillance Methods." <https://www.wsj.com/articles/SB10001424052970203611404577044192607407780>

51 Laddler, John. 2019. "High tech is watching you." <https://news.harvard.edu/gazette/story/2019/03/harvard-professor-says-surveillance-capitalism-is-undermining-democracy/>

52 Wong, Julia Carrie. 2019. "The Cambridge Analytica scandal changed the world – but it didn't change Facebook." <https://www.theguardian.com/technology/2019/mar/17/the-cambridge-analytica-scandal-changed-the-world-but-it-didnt-change-facebook>

53 Asurion. 2019. "Americans Check Their Phones 96 Times a Day." <https://www.prnewswire.com/news-releases/americans-check-their-phones-96-times-a-day-300962643.htm>

54 Nelson, Patrick. 2016. "We touch our phones 2,617 times a day, says study." <https://www.networkworld.com/article/3092446/we-touch-our-phones-2617-times-a-day-says-study.html>

55 Grohol, John M. 2011. "FOMO Addiction: The Fear of Missing Out."  
<https://psychcentral.com/blog/fomo-addiction-the-fear-of-missing-out/>

56 CustomMade. 2015. "The Carbon Footprint of the Internet."  
<https://www.custommade.com/blog/carbon-footprint-of-internet/>

57 Sandler, Rachel. 2020. "Zuckerberg Criticizes Twitter For Fact-Checking Trump Tweets."  
<https://www.forbes.com/sites/rachelsandler/2020/05/27/zuckerberg-criticizes-twitter-for-fact-checking-trump-tweets/?sh=11e193366f7a>

58 Noor, Iqra. 2020. "Confirmation Bias."  
<https://www.simplypsychology.org/confirmation-bias.html>

59 History of Visual Communication. n.d. "The History of Visual Communication."  
<https://www.historyofvisualcommunication.com/>